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ABSTRACT

The Apex Exemplary Project served 2,203 students in 4 schools of the Wake County, North Carolina, school system. The project was designed to expand career exploration and availability of occupational information to the lower and middle grades, to increase opportunities for work experience and cooperative education, to provide for specialized skill training of students prior to leaving school, and to initiate a placement service integrated with the counseling function within the school system. An attitude scale administered to teachers, administrators, and students in grades 9 through 12 yielded high group means indicating positive attitudes toward vocational education. Preliminary analyses of an attitudes toward self and others scale, administered to students in grades 9 throgh 12, showed reliability coefficients to be .865 and .655 for items measuring attitude toward self and others, respectively. Baseline data (by grade level) with which to measure changes at a later date were obtained by a 3-item instrument asking students in grades 1 through 5 to list as many occupations as they could, the occupations of members of the immediate family, and as many good work habits as they could; students in grades 6 through 12 responded to the latter 2 items. Baseline and/or historical data are also presented for the number of high school course offerings in vocational areas and the percentages of students applying for postsecondary education, students requesting career guidance services, parental conferences with guidance personnel, students using the occupational information centers, dropouts, average daily attendance, and grade failures. (Author/JH)

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INTERIM EVALUATION OF AN EXEMPLARY OCCUPATIONAL EDUCATION PROGRAM IN A RURAL COMMUNITY

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Joan G. Zicherman
W. Darrell Myrick
Robert L. Morgan

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CENTER FOR OCCUPATIONAL EDUCATION

North Carolina State University at Raleigh
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The task of evaluating exemplary projects in occupational education, which serve a diverse population of students, parents, teachers, and administrators, by utilizing a variety of techniques requires a rather complex evaluation system. To ensure the efficiency of the evaluative process, many people made varying contributions.

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Robert L. Morgan
Director of Evaluation

ABSTRACT

The Apex Exemplary Project in Occupational Education is serving 2,203 students enrolled in the four schools which comprise the Apex attendance area of the Wake County, North Carolina, school system. The project is designed to expand career exploration and availability of occupational information to the lower and middle grades, to increase opportunities for work experience and cooperative education, to provide for specialized skill training prior to leaving school and to initiate a placement service integrated with the counseling function within the school system.

While Apex, traditionally, has been considered a rural community, it is slowly becoming industrialized. The socioeconomic level of the area is low. For example, in the rural sections of the attendance area, more than 50 percent of its families have been earning less than $3,000 per year. Much of the housing has been declared substandard. Although blacks constitute 31 percent of the total population of Apex, they constitute 56 percent of the student population in the Apex school system.

An attitude scale measuring attitude toward vocational education, administered to teachers and administrators (N = 83), yielded an overall mean of 123.06 (total possible score = 150); a high score indicates a positive attitude toward vocational education. A similar scale, administered to students in grades 9-12 (N = 499), yielded a mean score of 75.49 (total possible score = 100); a high score again indicates a positive attitude toward vocational education. Preliminary analyses of an attitudes toward self and others scale, administered to students in

grades 9-12, shows the reliability coefficients to be .865 and .655 for items measuring attitude toward self and others, respectively.

A three-item instrument asking the students in grades 1-5 to list as many occupations as they could, the occupations of the members of the immediate family and as many good work habits as they could; and students in grades 6-12 to respond to the latter two items, provided baseline data, by grade level, with which to measure changes at a later date.

Baseline and/or historical data for the percentage of students applying for postsecondary education, the number of high school course offerings in vocational areas, the percentage of students requesting career guidance services, the percentage of parental conferences with guidance personnel, the percentage of students using the occupational information centers, the dropout percentages, the average daily attendance percentages, and the percentage of grade failures are also presented.

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INTRODUCTION

Bloom et al. defines evaluation as "a method of acquiring and processing the evidence needed to improve the student's learning ... an aid in clarifying the significant goals and objectives of education ... a system of quality control ... a tool for ... ascertaining whether alternative procedures are equally effective ..." (4, 7-8). This paper describes a project which resulted in "clarifying objectives" (operational definitions), and which led to setting a "baseline" for a quality control system. Since it is too early in the operation of the Apex Exemplary Project in Occupational Education to define either the effectiveness or the efficiency of the project operations, this paper should not be construed to have implications for the allocation of resources. Its primary purpose is to provide a description of the activities and accomplishments of the evaluation staff from September, 1970, to the present. The report treats two general areas. First, it treats the context and general design of the project, including its product objectives and the methods and instruments being developed to assess the attainment of these objectives. Second, the report presents the historical and baseline data required for future formative and summative evaluation reports. This evaluation report, thus, can be classified as an initial and formative evaluation, rather than as a summative evaluation which would be undertaken at the end of a program.[1]

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[1]The rationale for this evaluation is based largely on the work of B. S. Bloom, J. T. Hastings, and G. F. Madaus in Handbook on Formative and Summative Evaluation of Student Learning (4) and the work of J. K. Coster and R. L. Morgan in A Holistic Approach to Evaluating Occupational Education with Implications for Accreditation (8).

The format of this report generally follows the suggestions described in Preparing Evaluation Reports: A Guide for Authors (25). One minor change, which should be noted for the convenience of the reader, is that the usual summary has been omitted and has been replaced by an abstract placed in the front of the report. The other changes in format should occasion no difficulty for the reader. Finally, the demographic data in the report were gathered prior to the release of the 1970 U. S. census data. The data, then, had to be gathered from various limited sources, and therefore, did not lend itself readily to the prescribed format. However, the alternative of this form of presentation was to delay the report until the 1970 census data could be analyzed, and the authors felt that the benefits of the earlier publication date outweighed the drawbacks in the presentation. The annual evaluation report will use a slightly different format and more recent information from the 1970 census, and will offer a more effective presentation of these data.

LOCALE

The Apex Exemplary Program in Occupational Education serves the Apex attendance area of the Wake County, North Carolina, school system (Appendix 1). The attendance area consists primarily of the town of Apex and a large rural area surrounding it, which includes portions of the townships of Buckhorn, Holly Springs, Swift Creek, White Oak, and Middle Creek.

Apex is a small town in southwestern Wake County, North Carolina. Its municipal government is composed of an elected mayor and five town commissioners. The mayor votes on local legislation only in the case of a tie vote of the commissioners. Apex is located about 15 miles west of the state capital, Raleigh (1970 population of 121,577), and 18 miles south of the city of Durham (1970 population of 95,438) (24, 16 and 19). It is served by three major highways, U.S. 1, U.S. 64, and N.C. 55. Rail service is provided by the Durham and Southern Railroad and the Seaboard Coast Line Railroad. The Raleigh-Durham Airport is located approximately 11 miles north of Apex.

Several universities and colleges are located within a short drive from Apex--the University of North Carolina at Chapel Hill; Shaw University, St. Augustine's, Meredith and Peace Colleges, and North Carolina State University in Raleigh; and Duke University and North Carolina Central University in Durham. Technical institutes, business and junior colleges, and the Research Triangle Park, a growing center for scientific research, are also accessible to area residents.

A number of civic organizations are active in Apex--the Chamber of Commerce, Lions' Club, Rotary Club, Jaycees, Jaycettes, and Woman's Club. Seven churches serve the area: Apex Baptist, Apex United Methodist, First Baptist, Merry Oaks Baptist, Swift Creek Baptist, Olive Chapel Baptist, and Salem Baptist.

The central business district of Apex consists of approximately 50 stores and offices. Included are retail stores for clothing, specialty goods, general merchandise, jewelry and shoes; administrative buildings--doctors' and lawyers' offices, banks, the Town Hall, and a U. S. Post office; and consumer establishments--restaurants, barber shops, pool halls, and hotels (2, 23-24).

The facade of the Apex business area reveals "a grim tale of age and decline" (2, 32). Dr. Lawrence Mann commented, in his 1963 report on the population and economy of Apex, "... the visitor to the town cannot but be struck by the general feeling of obsolescence and lack of upkeep that downtown Apex signals" (16, 18). The 1965 Apex Planning Board study of shopper and resident attitudes toward the Apex central business district also concluded, "... the preponderance of public opinion, as judged from the preceding questionnaire analysis, supports the contentions ... that the appearance of the business district is unattractive, that parking space is scarce and that vehicular circulation is clogged" (2, 32).

The results of analyses and comments, such as those cited above, led to the development in 1966 of a detailed plan for improving downtown Apex (2). The February, 1969, Community Appearance Study, Apex, North Carolina concluded that, "... since that time [1966]

there has been a great deal of improvement in the visual appearance of the Apex central business district ... much work remains before downtown Apex can achieve the potential outlined for it in the 1966 study" (20, 43).

Both external and internal housing conditions in Apex were analyzed in 1968 by the Division of Community Planning, North Carolina Department of Conservation and Development. Each house in the Apex Planning Area (defined as the town of Apex plus a fringe area within one mile of the town's corporate limits) was evaluated and classified according to the following criteria:

(1) Sound housing - no defects, or only slight defects which normally are corrected by regular maintenance

(2) Deteriorating housing - needs more repair than is provided by regular maintenance

(3) Dilapidated housing - does not provide safe and adequate shelter; in its present condition, it endangers the health, safety, and/or well-being of the occupants (21, 8).

The results of the external housing survey, presented in Table 1, indicate that slightly under one-third of the housing in Apex and over one-half of the housing in the fringe area was substandard, that is, deteriorating or dilapidated (21, 10).

Table 1. External Housing Conditions, Apex Planning Area, 1968.

	Apex		Fringe	
	No.	%	No.	%
Total Dwellings	548	-	231	-
Sound	336	61.3	91	39.4
Deteriorating	107	19.5	55	23.8
Dilapidated	75	13.7	74	32.0
Trailers	30	5.5	11	4.8

The internal housing conditions survey investigated the interior physical housing conditions for, and the social characteristics of, the residents of 27 percent of the substandard dwellings. A total of 84 families were interviewed. As Table 2 illustrates, in the town of Apex barely half the residents of substandard homes had both hot and cold running water, and about one-third did not have an indoor bathroom. In the fringe area, a much greater number of substandard homes had no running water and/or indoor toilet facilities. (21, 11)

Table 2. Internal Housing Conditions in 27 Percent of Substandard Housing, Apex Planning Area, 1968.

	Apex		Fringe	
	No.	%	No.	%
Number of Rooms				
2	2	3.8	0	0.0
3	9	17.0	5	16.1
4 or more	42	79.2	26	83.9
Running Water				
Hot and cold	26	49.0	9	29.0
Only cold inside	15	28.3	7	22.6
On property, not inside	3	5.7	0	0.0
None	9	17.0	15	48.4
Flush Toilet				
Yes	38	71.7	10	32.2
No	15	28.3	21	67.8
Bath or Shower				
Yes	35	66.0	9	29.0
No	18	34.0	22	71.0
Water Source				
Town system	44	83.0	2	6.5
Individual well or other	9	17.0	29	93.5
Sewage Disposal				
Public sewer	32	60.4	0	0.0
Septic tank	7	13.2	11	35.5
Privy	12	22.6	20	64.5
Other	2	3.8	0	0.0

Approximately 60 percent of the substandard houses were renter-occupied and 40 percent owner-occupied. Nonwhites occupied 73.6 percent of such housing. Fifty-three percent of the families interviewed had an income of less than $5,000 per year, and 40 percent had an income of less than $3,000 per year. Eighty-three percent of the heads of household did not graduate from high school; 39 percent had less than seven years of schooling. (21, 15-18)

The average household in a substandard dwelling in the whole area was composed of 4.0 persons, as compared to the Apex average of 3.12 persons. Forty-three percent of the residents of substandard houses were under 25 years of age; 19 percent were over 55 years of age. (21, 19)

In summary, while the total number of houses in Apex increased (from 315 in 1950 to 548 in 1968), housing conditions did not improve. The percentage of housing deemed substandard in 1960--35.1 percent--rose to 38.7 percent in 1968. Housing in the rural fringe fared far worse; by 1968, 60.6 percent of all housing in the area had been classified substandard. (21, 12-13)

The Division of Community Planning suggested that many of the problems in the blighted neighborhoods in Apex derived from the inadequate income, mentioned above, of many of its families. Money was not available to provide adequate homes. The education figures (see pages 7 and 10) further suggest that the residents of substandard housing had neither the training nor the education necessary to obtain better paying jobs. (2, 61)

Population Patterns and Characteristics

Until 1960, the population of Apex increased rather slowly. However, recent years' growth has been much more rapid. The 1970 population of Apex was 2,192, a 60.2 percent increase over the 1960 figure of 1,368 (16, 15). This increase can be compared to the growth in the White Oak township, which includes Apex--19.5 percent from 1960 to 1970 (24, 13). If population change is computed for the White Oak

township, excluding Apex, a growth figure of .7 percent is obtained. This suggests that most of the growth in the White Oak township may be accounted for by the growth of the town of Apex. Table 3 also shows the significant increase in the population of the town of Holly Springs, which is partially contained within the boundaries of the Apex attendance area (as seen on the map in Appendix 1).

Table 3. Population and Growth, 1960-1970.

Area	Total Population 1970	Total Population 1960	% Change 1960 to 1970
Apex	2,192	1,368	60.2
Holly Springs	697	558	24.9
White Oak Township	5,189	4,344	19.5
Wake County	288,453	169,082	35.1
North Carolina	5,082,059	4,556,155	11.5

Final analyses of the 1970 census data have not yet been published. The only published information available is contained in Mann's 1963 report on the population and economy of Apex, whose source was 1960, Bureau of Census data (16). Although this document dealt with the characteristics of the Apex town population as such, and not with characteristics of the entire population included in the Apex attendance area, it is still a valuable guide until the appropriate attendance area figures can be collected from the 1970 census data. However, Dr. Mann suggested that, since his data are derived using estimation formulas, they are only representative and can be accepted only with caution (16, 1).

In 1960, approximately 69 percent of the Apex population was classified as white and 31 percent as nonwhite, compared with the North Carolina white-nonwhite ratio of 75 to 25. The median age for Apex residents was 27.9, compared with the median for North Carolina of 25.5. Dr. Mann suggests that the reasons for this slightly older population were the below-average proportion of children less than five years of age, the low proportion of young adults, and the rather high proportion of persons in the 35-44 and 65-and-over age groups. For every 100 females in Apex, there were 94.9 males. Some important differences in age and sex characteristics by race also existed. The median age for nonwhite females was 20.3; the median age for white females, 33.3. The median age for nonwhite males was 17.6; the median age of white males, 31.3. Nonwhite males, in contrast to the population as a whole, outnumber the nonwhite females. (16, 1-2)

The median years of schooling for persons 25 years of age or older was 9.8 for Apex and 8.9 for North Carolina; the Apex figure is closer to the state-urban figure of 10.4. Relative to other state-urban data, Apex had a higher proportion of persons with no schooling or less than five years of schooling, a slightly lower proportion of persons having between five and eight years of schooling, about the same proportion of high school graduates, and a much lower proportion of persons having some college education. However, it can be noted that Apex had a higher proportion of high school and college graduates relative to North Carolina urban areas. (16, 2).

The Apex "hinterland," defined by Mann as the area remaining in Tract 34 of the 1960 census after the area of the town of Apex is

subtracted, is characterized by a younger population in which males predominate (Appendix 2). Approximately one-half the population is nonwhite. The average education level is lower than both the Apex and the state-rural averages. However, Mann reports the average education level for nonwhites in the "hinterland" may be higher than the North Carolina average. (16, 3)

Table 4 presents Apex welfare assistance data. The Wake County Welfare Department maintains records on three major types of welfare cases: aid to families with dependent children, aid to the permanently and totally disabled, and old age assistance. Fifty-eight families,

Table 4. Public Assistance and Welfare Cases, Apex, North Carolina.

Type	Total Cases	% of Total Cases
Old Age Assistance	22	37.9
Aid to Permanently and Totally Disabled	16	27.6
Aid to Families with Dependent Children	20	34.5
TOTAL FAMILY UNITS	58	100.0

thus, receive welfare assistance according to these data. (21, 34)

Economic Situation

The Apex Planning Board has stated "... the social lifebloods of the town are undergoing a metamorphasis [sic] from a rural, immobile, independent, agricultural and contented neighborhood-community to a semi-urban, mobile, dependent, industrial and concerned society" (2, 12).

Historically, Apex has served Wake County as a major retail center for a sizable rural fringe of farms. However, recent years have seen a sharp decline in agriculture as a source of employment. Although figures are not available specifically for Apex, Wake County data reveal that, while approximately 17 percent of the county's workers were employed in agriculture in 1950, barely 7 percent were so employed in 1960 (16, 18). On the other hand, employment in manufacturing is increasing; a trend towards an industry-based economy may be occurring. The years 1960-1965 are indicative of the changes in Apex. A pharmaceutical plant, swimsuit manufacturing company, gas terminal, asphalt plant, community hospital, sewage disposal plant, expanded water system, $250,000 recreation center, two major highways, and a total of $900,000 worth of buildings were erected, founded, or situated in Apex during that period (2, 10).

Employment figures by industry, as classified by Mann, for workers in Apex and the surrounding rural area, the "hinterland" as defined on page 10, are presented in Table 5 (16, Appendix, Table 12). Of the 503 working residents of the town of Apex, approximately 18 percent were employed in agriculture and unclassified occupations. Of the 411 remaining workers, high percentages were employed in wholesale or retail trade and manufacturing; 27.9 and 21.2 percent, respectively. About 18 percent were employed in professional services; 12 percent in transportation, communications and utilities; 10 percent in personal services; 6 percent in public administration; and 5 percent in the construction trades.

Table 5. Employment by Industry, Apex Area Residents, 1960.

Industry	Hinterland No.	Hinterland %	Apex No.	Apex %
Construction	67	9.5	20	4.9
Manufacturing	125	17.7	87	21.2
Wood Products	81	11.5	26	6.3
Metal	2	.3	6	1.5
Machinery	3	.4	7	1.7
Other Durables	1	.1	2	.5
Food	20	2.8	17	4.1
Textiles and Apparel	4	.6	8	2.0
Printing and Publishing	3	.4	1	.2
Other Non-durables	11	1.6	20	4.9
Railroad	7	1.0	10	2.4
Other Transportation	36	5.1	27	6.6
Communication Utilities	18	2.5	11	2.7
Wholesale	12	1.7	21	5.1
Eat and Drink	13	1.8	10	2.4
Other Retail	168	23.8	78	19.0
Business and Repair Serv.	11	1.6	6	1.5
Households	131	18.6	10	2.4
Other Personal Services	31	4.4	32	7.8
Hospital	3	.4	1	.2
Education	32	4.5	38	9.2
Other Prof. Services	32	4.5	36	8.8
Public Administration	20	2.8	24	5.8
All Classified	706	100.0	411	100.0
Other	331	31.9	92	18.3
Grand Total	1,037		503	

The "hinterland" area followed a different pattern. About 32 percent of its working residents were in farming or unclassified occupations in 1960. Of the nonagricultural group, a much higher proportion (23 percent) worked in personal services, and a slightly

higher proportion worked in construction. Lower proportions were found in transportation, professional services, and public administration. About the same proportions were employed in manufacturing and wholesale and retail trade.

As Dr. Mann states, "... the proportion of jobs in various kinds of activities held by residents of an area, as mentioned above, do not necessarily reflect the proportion of jobs actually found there" (16, 14). For example, approximately one-quarter of the workers in the area surrounding and including Apex worked in Raleigh, and an additional nine percent worked outside Wake County. Estimates for Apex itself indicate that nearly 37 percent worked in Raleigh, and nine percent worked outside Wake County. It is estimated that 810 jobs existed in Apex in 1960. Approximately 30 percent of these jobs were in manufacturing, 25 percent in wholesale and retail trade, and 20 percent in personal services. Ten percent were in transportation, about seven percent in construction, four percent in professional services, and less than one percent each in public administration and business and repair services. (16, 14)

Dr. Mann concludes that the high percentage of jobs in trades is related to Apex's traditional position as a tobacco market and warehousing center for the surrounding rural area. He further suggests that the large number of personal services jobs "tells the story of a largely unskilled, formerly agricultural labor force turning to such jobs for lack of more rewarding work," a trend prevalent in many parts of North Carolina. (16, 16)

Yet, the concentration of jobs in manufacturing (21.2 percent and 17.7 percent for Apex and its "hinterland," respectively) suggests a new trend for Apex. The North Carolina Directory of Manufacturing lists 11 manufacturing plants in Apex, employing about 300 workers. Eight of the 11 employ fewer than 12 persons, two employ between 60 and 75 workers, and one has more than 100 workers. More than 50 percent of the jobs are in wood and wood-related industries, over 40 percent in textile areas, and the rest in chemicals and miscellaneous industries. (16, 16-17)

Table 6 presents the income distribution of the residents of Apex and its "hinterland" by race. Generally, white residents had higher

Table 6. Percentage Income Distribution by Race, Apex and Hinterland, 1960.

	Hinterland			Apex		
Income	White	Nonwhite	Total	White	Nonwhite	Total
- 1000	8.9	29.3	17.1	6.6	13.4	8.4
$1000 - 1999	14.6	34.1	22.3	5.9	25.0	11.0
$2000 - 2999	9.4	18.1	12.9	9.7	25.0	13.8
$3000 - 3999	20.2	11.1	16.6	9.4	15.4	11.0
$4000 - 4999	12.3	3.7	8.9	6.2	4.8	5.8
$5000 - 5999	8.9	1.8	6.0	24.0	9.6	20.1
$6000 - 6999	11.6	1.1	7.4	5.9	1.0	4.6
$7000 - 7999	4.4	.7	3.0	9.4	1.9	7.4
$8000 - 8999	3.5	---	2.1	5.6	---	4.1
$9000 - 9999	2.2	---	1.4	7.3	---	5.4
$10,000 +	3.9	---	2.3	10.1	---	8.4
MEDIAN	$3847	$1607	$2822	$5508	$2464	$4999

incomes than nonwhite residents had, and Apex town residents had higher incomes than did surrounding rural area residents, holding race constant. (16, Appendix, Table 16)

Table 7 further compares the income distribution within the Apex area with those of the nation, state, and county (2, 14). These data illustrate the low-income situation of Apex and the surrounding rural

Table 7. Distribution of Income by Families, 1960.

Percent of all Families Earning	Total U.S.	Total N.C.	Wake County	Apex	Apex Hinterland
Less than $3000	21.4	37.2	29.1	33.2	52.3
$3000 - $7999	52.1	49.3	58.6	48.9	41.9
$8000 and over	26.5	13.5	12.3	17.9	5.8

area. The "hinterland" was far behind national, state, county, and town income levels. Approximately one-half of its residents made less than $3,000 per year, and more than 90 percent made less than $8,000 per year. The town itself had more families making less than $3,000 per year than had the county and nation.

In Table 8, income data of Apex are compared to those from other towns and jurisdictions nearby (2, 15). Apex appears to have a larger percentage of low-income families than all of the areas but one.

Table 8. Percentage of Families with Incomes Under $3,000, 1960.

Town	Percentage	Population
Apex	33.2	1,368
Cary	11.8	3,356
Fuquay-Varina	35.8	3,389
Garner	16.4	3,451
Total Wake County	29.1	169,082
Total North Carolina	37.2	4,556,000

However, as Table 9 indicates, Apex seemed to be holding its own when compared with these same areas on the indices of average family income and per capita income (2, 17).

Table 9. Income Trends for Apex and Selected Areas, 1959.

Town	Average Family Income	Per Capita Income
Apex	$5,406	$1,732
Cary	6,729	2,024
Fuquay-Varina	5,196	1,462
Garner	6,665	1,900
Total Wake County	5,862	1,571
Total North Carolina	4,838	1,260

The economic and social conditions which now exist in Apex appear representative of the general conditions in the emerging South. The area is in an obvious state of economic transition, from a predominately rural farm economy to a more industrialized one. Once a poor rural farm area, Apex is slowly changing toward a diversified population with larger numbers of "suburbanites" who work in the nearby larger towns. The population is also changing both in its racial and its socio-economic characteristics. If Apex is not, in fact, completely representative of the emerging South, at least it seems to conform closely to the stereotype so popular in the national news magazines.

THE APEX ATTENDANCE AREA SCHOOL SYSTEM

The Apex exemplary program in occupational education serves the Apex attendance area, the western-most of the nine attendance areas which constitute the Wake County school system. The Wake County system is operating, 1970-1971, with a tax base of $800,000,000. Tax base figures for previous school years are shown in Table 10 (32).

Table 10. Tax Base, Wake County Schools, 1964-1970 School Years.

School Year	Tax Base
1964-1965	$500,000,000
1965-1966	520,000,000
1966-1967	550,000,000
1967-1968	600,000,000
1968-1969	725,000,000
1969-1970	760,000,000
1970-1971	800,000,000

Approximately 26,500 students are enrolled in the 43 schools of the Wake County school system; the number of faculty members is 1,195 (31, 4). The cost per Wake County pupil is computed using the following formula:

$$\frac{\text{State Funds + Current Expenses + Capital Outlay}}{\text{Average Daily Membership}}$$

The resulting figure for the 1969-1970 school year is $592.46; this figure does not include debt service, which is related to building bonds and which is not part of the operating budget. The comparable figure for the previous school year is $562.46. (32)

An organizational chart of the Wake County school system is presented in Appendix 3. The Apex schools are administered by the Wake County Board of Education, whose members are popularly elected by Wake County residents and which is the policy-making body for the schools. The Apex Advisory Council, appointed by the Wake County Board of Education, provides local advisory supervision. (3, 44)

Approximately 2,300 students are enrolled in the four schools which serve the educational needs of the residents of the Apex attendance area; the faculty of the Apex school system number 113 (Table 11). A. V. Baucom serves students in grades 1-3, and Holly

Table 11. Total Enrollment, Apex Attendance Area Schools, September 1970

School	Grades	Total Enrollment
Holly Springs	K-3	237
A. V. Baucom	1-3	487
Apex Elementary	4-8	992
Apex High	9-12	621
TOTAL	K-12	2337

Springs students in grades K-3. Residents of Holly Springs who are eligible for enrollment in grades K-3 attend the Holly Springs school. Upon their completion of the third grade, these pupils are assigned, geographically, to either the Apex attendance area or the Fuquay-Varina attendance area school system (see Appendix 1). Apex Elementary serves the middle grades 4-8, and Apex High serves grades 9-12.

One other school is located within the boundaries of the Apex attendance area--the Triangle School. It was founded in 1962 by the Seventh Day Adventist Church as both an academic and religious school. The school is attended by 28 students, most of whom are from the Garner, North Carolina area; only two students are from the Apex area. The Triangle School serves grades 1-8 and presently has no vocational program. (27)

Several federally funded programs have been established in Wake County. Three Neighborhood Youth Corps programs are presently operational; (1) the NYC in-school program, (2) the NYC out-of-school program, and (3) the NYC summer program. All three of these programs are based in Raleigh and have limited participation by the youth of Apex. The primary reasons for this lack of participation include lack of appropriate job sites in the Apex area and lack of transportation to and from skills training and other classes, and to and from appropriate work sites.

The Neighborhood Youth Corps in-school program provides after-school jobs for four students presently enrolled in the Apex schools. All work within the Apex school system; two are are working as janitorial aides, one as a home economics assistant, and one as an office assistant. Only two individuals from the Apex area participate in the NYC out-of-school program, which trains school dropouts and places them in jobs with non-profit organizations for work experience. The lack of suitable work sites in the Apex area is a serious obstacle to the success of this program in Apex; most appropriate work sites, and all training and remedial education classes, are located in Raleigh,

posing the additional transportation problem. The NYC summer program places its enrollees, all of whom are planning to attend school the following fall, in summer jobs in non-profit-making organizations (schools, Wake County school office, and Wake County schools media center, etc.). During the summer of 1970, 14 students from the Apex area participated in this program.

Wake Opportunities serves as the local community action program and has office facilities in Apex. The staff, along with several volunteers, provide tutoring in school subjects for approximately 20 Apex high school and 20 elementary school students. Wake Opportunities additionally attempts to place local children in summer jobs.

A free lunch program is also in operation within the Wake County schools, including the four Apex attendance area schools. Eligibility for free or reduced-price lunches is determined by the principal of each school on the basis of individual family applications. The criteria for eligibility include family income and size (see Appendix 4). The number of pupils in each Apex school receiving free or reduced-price lunches is shown in Table 12. The Holly Springs' figures

Table 12. Number of Pupils Receiving Free or Reduced-Price Lunches, February 1971.

School	FREE		REDUCED-PRICE	
	No.	%	No.	%
Holly Springs	161	68.5	10	4.2
A. V. Baucom	105	22.2	2	0.4
Apex Elementary	427	43.7	9	0.9
Apex High	152	24.5	0	0.0

are inflated because of the inclusion of children participating in the Head Start program, all of whom receive free lunches. The funds for this program are provided by the U. S. Department of Agriculture.

Information with which to empirically describe the student population is not available at this time. Data on the I.Q., education levels and occupations of the mother and father, number of children in the family, and scores on the California Test of Basic Skills are being collected for each student in each of the four Apex schools. Fully analyzed results, by grade, will be presented in the final evaluation report.

Integration

Under the freedom of choice approach to desegregation, adopted by the Wake County Board of Education in 1955, integration proceeded slowly. In 1966, Wake County began implementing a three-phase total integration plan, whose goals are geographical student assignment and faculty integration. (29, 8)

Phase I, 1968-1969, did not affect the Apex attendance area schools. During 1969-1970, under Phase II, A. V. Baucom was changed from a primarily white school, housing grades 1-5, into an elementary school for both races, housing grades 1-3 (30, 9). The A. V. Baucom faculty ratio during 1968-1969 was 11 percent black to 89 percent white; the student ratio was 10 percent black to 90 percent white. The integration plan projected a 1969-1970 faculty ratio of 44 percent black to 56 percent white and a student ratio of 50 percent black to 50 percent white (30, 20-21).

Phase III is being implemented during the current, 1970-1971, school year. Holly Springs, Apex Elementary, and Apex High are all undergoing major changes in the composition of their faculties and student bodies.

Holly Springs has been assigned all students in grades K-3 who are residents of the Holly Springs portion of the Apex and Fuquay-Varina attendance areas. Previously, Holly Springs served black students in grades 1-8. During 1969-1970, the black-white faculty ratio was 87 percent to 13 percent, and the student body was 100 percent black. During 1970-1971, the black-white faculty ratio was expected to be 54 percent to 46 percent, and the black-white student ratio was expected to be 85 percent to 15 percent. (31, 17-18)

Apex Elementary has been changed from a black school containing grades 1-12 to a middle-grades school serving all students in grades 4-8. During 1969-1970, its faculty ratio was 93 percent black to 7 percent white, and the student body was 100 percent black. The projected faculty and student ratios, respectively, for 1970-1971 were 47 percent black to 53 percent white, and 50 percent black to 50 percent white. (31, 17-18)

Apex High operated as a white school for grades 1-12 until 1966, when it began housing white students in grades 5-12. During 1970-1971, Apex High became the only high school in the attendance area, serving all students in grades 9-12. During 1969-1970, blacks constituted 17 percent of the faculty, and whites the remaining 83 percent; the black-white student ratio was the same. In 1970-1971, the composition of the

Apex High faculty was to be 43 percent black and 57 percent white. The student body was expected to be 54 percent black and 46 percent white.

This information is summarized in Table 13 for the years 1966 through 1970. These figures represent actual, not projected, percentages of black and white students and teachers. Since the percentages of other racial groups within the Apex attendance area is very small, only percentages of blacks and white are shown.

Table 13. Percentage, By Race, of Students and Teachers in Apex Attendance Area Schools, 1966-1970.

School	March 1966		Sept. 1967		Sept. 1968		Sept. 1969		Sept. 1970	
	W*	B**	W	B	W	B	W	B	W	B
Holly Springs										
Grade Levels	1-8		1-8		1-8		1-8		K-3	
Students-Elementary	0	100.0	0	100.0	0	100.0	0	100.0	9.4	90.6
Teachers-Elementary	0	100.0	17.8	82.2	14.3	85.7	13.3	86.7	69.2	30.8
A. V. Baucom										
Grade Levels	1-5		1-5		1-5		1-3		1-3	
Students-Elementary	98.6	1.4	97.6	2.4	90.4	9.6	50.4	49.6	49.7	49.7
Teachers-Elementary	100.0	0.0	86.2	13.8	88.9	11.1	61.9	38.1	68.4	31.6
Apex Elementary										
Grade Levels	1-12		1-12		1-12		1-12		4-8	
Students-Elementary	0	100.0	0	100.0	0	100.0	0	100.0	46.5	53.2
Students-Secondary	0	100.0	0	100.0	0	100.0	0	100.0	---	
Teachers-Elementary	0	100.0	8.4	91.6	7.7	92.3	7.1	92.9	67.6	32.4
Teachers-Secondary	0	100.0	12.5	87.5	12.5	87.5	92.3	7.7	---	
Apex High										
Grade Levels	5-12		5-12		5-12		4-12		9-12	
Students-Elementary	100.0	0	94.1	5.9	93.1	6.9	89.2	10.8	---	
Students-Secondary	98.5	1.5	95.3	4.7	95.9	4.1	93.3	6.7	47.5	52.4
Teachers-Elementary	100.0	0	96.6	3.4	90.0	10.0	82.4	17.6	---	
Teachers-Secondary	100.0	0	95.0	5.0	100.0	0	84.2	15.8	60.0	40.0

* W = White
**B = Black

NEED ASSESSMENT

During the latter part of the 1960's, the high level of youth unemployment directed renewed attention to the role of vocational education in providing educational opportunity for individuals in all strata of American society. One significant result of this attention was the inclusion of the concept of vocational education in the more general concept of occupational education, which now includes both pre-vocational and vocational education. The thinking which led to the revision of the vocational education concept was clearly expressed in House Report 1647 of the 90th Congress, Second Session:

> . . . The General Subcommittee on Education has concluded that the following five ideas recommended by the Advisory Council (on Vocational Education) deserve serious consideration: (1) any dichotomy between academic education and vocational education is outmoded; (2) developing attitudes, basic educational skills and habits are as important as skill training; (3) pre-vocational orientation is necessary to introduce pupils to the world of work and provide motivation; (4) meaningful career choices are a legitimate concern of vocational education; (5) vocational programs should be developmental, not terminal, providing maximum options for students to go on to college, pursue postsecondary vocational and technical training, or find employment (13).

The Vocational Education Amendments of 1968 provided means for implementing these House Reports by including provisions for developing and administering exemplary programs and projects designed to produce new methodologies in occupational education. Under Part D (Exemplary Programs and Projects) of the Vocational Education Amendments of 1968, Congress defined the purpose of exemplary programs and projects:

> . . . to stimulate, through Federal financial support, new ways to create a bridge between school and earning a living for young people who are still in school, who have left school either by graduation or dropping out, or who are in postsecondary programs for vocational preparation, and to promote cooperation between public education and manpower agencies. (15)

Grant Venn, Associate Commissioner for Adult, Vocational and Technical Education pinpointed the priorities that should be established for an exemplary occupational education program in light of the 1968 Amendments:

1. Provisions for broad occupational orientation at the elementary and secondary school levels so as to increase student awareness of the range of options open to them in the world of work.

2. Provisions for work experience, cooperative education and similar programs, making possible a wide variety of offerings in many occupational areas.

3. Provisions for students not previously enrolled in vocational programs to receive specific training in job entry skills just prior to the time that they leave the school. (Some of these training programs might be very intensive and of short duration.)

4. Provision for intensive occupational guidance and counseling during the last years of school and for initial placement of all students at the completion of their schooling. (Placement might be in a job or in postsecondary occupational training. Placement should be accomplished in cooperation with appropriate employment services, manpower agencies, etc.)

5. Provisions for the grantee or contractor to carry the program on with support from regular funding sources after the termination of the Federal assistance under Part D of P.L. 90-57. (Federal assistance under Part D cannot exceed three years.) (26)

The development of the exemplary program in occupational education, described in the following section, stemmed directly from a mix of the above legislative intents and the stated policy of the U. S.

Office of Education. In particular, the five ideas contained in House Report 1647 constituted a strong conditioning factor in the development of the holistic approach to education which characterizes this exemplary program. It represents a total approach to the problem of occupational education for elementary and secondary school children in grades 1 through 12. The program should provide an integrated educational experience in which each component of the occupational education system is carefully matched with every other component to produce the greatest possible efficiency.

The following specific factors contributed to the selection of the Apex attendance area as the site for implementing such a comprehensive occupational education program:

1. While Apex, traditionally, has been considered a rural community, its agrarian economy is undergoing a rapid transition toward an industrialized one. Although located only 15 miles from the urban center of Raleigh, its population characteristics and its problems of providing adequate occupational education resemble those of the rural communities of North Carolina and, indeed, of much of the South, rather than those of the urban areas. The transition has required a reexamination of the needs for occupational education.

2. The socioeconomic level of the Apex attendance area is relatively low. The income level of the rural area surrounding Apex is far behind national, state, county, and town levels; approximately 50 percent of its families have been earning less than $3,000 per year. The town of Apex has had more families earning less than $3,000 per year than both the county and the nation. Slightly under one-third

of the housing in Apex, and over one-half of the housing in the rural area, has been evaluated as substandard. Approximately 37 percent of the children in the attendance area receive free lunches.

3. Approximately 31 percent of the population of Apex is nonwhite. This is seven percent higher than the percentage of blacks in the total North Carolina population. The nonwhite population is also concentrated in the below-25 age group. Blacks constitute 56 percent of the students enrolled in the Apex attendance area. This proportion is the highest for any attendance area in the Wake County school system (31, 18).

4. The desegregation plan for the Apex attendance area is in its last phase of implementation. The student body in each school is approximately equally divided between black and white students.

5. Preliminary analyses indicate that the academic achievement level in the Apex attendance area is quite low; final figures will be presented in the final evaluation report.

6. The Apex community previously had been selected as the site for exploratory work in the development of a middle grades program by the Center for Occupational Education at North Carolina State University. The interest of school personnel in that program, and in implementing a comprehensive program in occupational education, was a major factor in selecting Apex as the target system.

The goals of occupational education which relate to adequate and appropriate preparation for employment are closely related to the national goals of alleviating poverty, minimizing unemployment, maximizing the productive contribution of each member to society, and

maintaining a healthy and dynamic economy. Obviously, Apex is an economically depressed area and could benefit greatly from an integrated occupational education program.

A three-year allocation of approximately $400,000 was awarded the Wake County school system to establish the total occupational education program in the Apex attendance area. The central participants in the project are 2203 of the students in the four Apex schools (Holly Springs, grades 1-3; A. V. Baucom, grades 1-3; Apex Elementary, grades 4-8; and Apex High School, grades 9-12) and the 100 administrators and teachers who operate the program, as well as parents and other community members.

IMPLEMENTATION PLAN

This section will describe the scope and organization of the Apex exemplary program. It is divided into three subsections: (1) product objectives, (2) process objectives, and (3) organizational context. The product objectives, or goals, of the Apex exemplary program refer to behavioral changes in the students, parents, teachers, and administrative personnel which are expected to occur as results of the on-going program. The process objectives represent procedural guidelines and specifications by which to achieve the project's goals. The concluding section dealing with the organizational schema of the program--lines of authority and personnel functions--represents, in effect, a description of the program's delivery system.

Product Objectives

As previously stated, the product objectives, or goals, are defined in terms of behavioral changes. The primary objectives are those which can be seen as direct outcomes of the processes of the Apex exemplary program. It is also hoped that other, less directly related changes in behavior will be elicited by the program; these constitute the secondary objectives.

Primary Objectives

1. To increase student (grades 4-12) interest in academic subjects.
2. To increase student (grades 6-12) awareness of their self-attributes, personality traits, aptitudes, abilities, and interests.
3. To increase the positiveness of student (grades 6-12) attitudes toward themselves and others.

4. To increase the positiveness of student (grades 6-12), parent, teacher, and administrative personnel attitudes toward occupational education.
5. To increase student (grades 6-12) knowledge of occupations and occupational environments.
6. To increase student (grades 9-12) interest in obtaining job entry level skills.
7. To increase student (grades 9-12) and teacher satisfaction with curricular offerings.
8. To increase student interest (grades 10-12) in postsecondary training.
9. To have each student (grades 1-12) know the occupations of each member of his immediate family (mother, father, brothers, sisters).
10. To increase by 5 per year the number of occupations that students (grades 1-5) can list.
11. To increase by 5 per year the number of "good" work habits each student (grades 1-12) can list.
12. To increase by 10 percent per year the percentage of high school students enrolled in vocational programs.
13. To increase by 10 percent per year the percentage of students (grades 6-12) participating in work experience programs.
14. To increase by 10 percent per year the percentage of students applying for postsecondary education.
15. To increase by 2 per year the number of high school course offerings in vocational areas.

16. To increase by 15 percent per year the percentage of requests for career guidance services (grades 6-12).
17. To increase by 20 percent per year the percentage of parental conferences with both guidance and project personnel.
18. To increase to 100 percent of enrolled students, within the three years of the program, the percentage of students using the occupational information centers (grades 4-12).
19. To increase to 100 percent, in the three years of the program, the percentage of school dropouts and school graduates who do not plan to enter a postsecondary school with job entry level skills.
20. To place in employment 100 percent of graduates and dropouts who seek employment and reemployment within the three years of the program.

Secondary Objectives[1]

1. To increase by ___ centiles per year the average academic achievement of students (grades 1-12) as measured by the California Test of Basic Skills.
2. To decrease by ___ percent per year the dropout rate (grades 6-12).
3. To increase by ___ percent per year the average daily attendance percentage (grades 1-12).
4. To decrease by ___ percent per year the percentage of grade failures without altering academic standards (grades 1-12).

---

[1]These objectives will be finalized after relevant, historical data are fully analyzed.

Process Objectives

In order to accomplish the goals of the Apex program, a number of process objectives have been defined. These process objectives refer to those changes in the educational program which must be effected in order for the Apex program to be a success. These objectives vary from level to level within the school system to reflect what is to be accomplished at that level. The additional personnel who have been placed in the Apex school system (described in the next section) and the in-service training experiences being provided the teachers are directed toward ensuring that each of these process objectives is implemented.

The all-inclusive goal of the Apex exemplary program is to demonstrate the feasibility of implementing a comprehensive occupational education program in a rural school system. This goal will be achieved if the following process objectives are realized at the respective levels of the Apex school system.

The program at the elementary school level is to accomplish:

1. Integration of occupational information with the basic academic materials.
2. Discussion of habits and attitudes for employability (i.e., dependability, responsibility, appreciation of quality, neatness, carefulness, etc.).

The objectives to be realized by the program at the junior high school level are:

1. Integration of occupational information with basic academic materials.

2. Exploration of attitudes toward occupational education, particularly by the students and also by parents and school personnel.
3. Investigation by students of self-characteristics (aptitudes, interests, attitudes toward self, etc.).
4. Acquaintance of students with elementary concepts of career decision-making, including the choice and consequence of alternatives.
5. Utilization of "hands-on" experience in occupational laboratories and on-site observation of work.
6. Establishment of skill training programs.

The high school occupational education program is to effect:

1. Integration of occupational information with academic materials.
2. Expansion of opportunities for students in cooperative education and work-study programs.
3. Establishment and direction of skill training laboratories.
4. Utilization of intense placement-counseling services.
5. Continued exploration of attitudes toward occupational education and toward the self.

Additionally, the counseling-placement function will be intensified at all levels in the school system to effect:

1. Availability of current information about the occupational environment, particularly in the community and also in the state and nation.
2. Counseling of each student regarding his capabilities and probabilities of success in various occupations, perhaps based on a series of aptitude and interest tests and combined with each individual's opinions and attitudes.

3. Intensification of individual counseling for students immediately prior to their leaving school.
4. Provision for placement services.
5. Direct participation of students in all phases of the total occupational education program by working with parents and school personnel.

It was hoped that, by making the above process objectives reasonably general, the organizational personnel (Figure 1) who are directly responsible for the further delineation of these objectives would not be restricted to a single implementive method, but would be able to select the ones most appropriate for the Apex school system.

Organizational Context

The administrative structure for the program is shown schematically in Figure 1. The personnel employed in the project are employed as professional staff of the Wake County Public Schools and are subject to personnel policies which have been adopted by the Wake County School Board.

The Superintendent of Schools, acting for and with the consent of the Wake County School Board, has appointed a National Advisory Council composed of teachers, guidance personnel, administrators, and business, industrial, and professional leaders from all over the United States. This council is to assist in initiating and evaluating the project and in assessing the extent to which the legislative intent has been fulfilled.

The Project Director reports to the Superintendent of Schools through the Director of Instruction. The Project Director coordinates

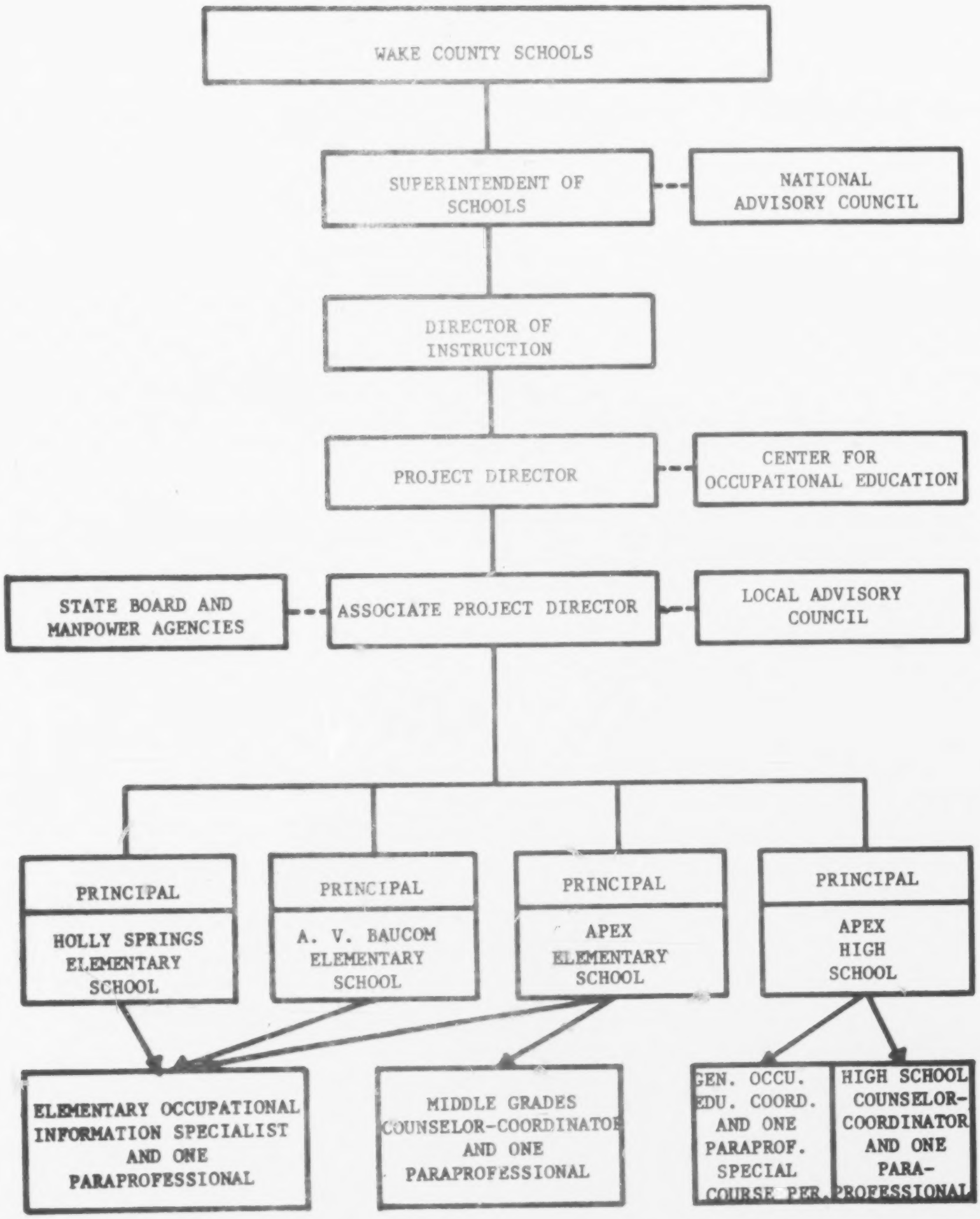


FIGURE 1

ADMINISTRATIVE STRUCTURE

and directs the work of the project staff in conjunction with the principal of each of the four Apex schools. He makes all policy decisions, controls expenditure of funds, and coordinates the Apex exemplary project with operations of other exemplary projects and public and private vocational programs. The Project Director ensures that the product objectives of the project are fulfilled; his authority reflects this responsibility.

The Associate Project Director, who is directly supervised by the Project Director, aids the Project Director in coordinating efforts among the personnel located at the four Apex schools. He has line authority over the other project personnel through the principals. Weekly conferences with project personnel are conducted by the Associate Project Director to maintain an information flow so that work will be neither replicated nor overlooked. The Associate Project Director is responsible for increasing community and industrial involvement in the project and for coordinating the Apex program with existing programs such as Manpower. Additional duties include: establishing in-service workshops; gathering and cataloging project activities; preparing quarterly, annual, and final reports in cooperation with other staff members; and supervising the activities of a secretary.

The Elementary Occupational Information Specialist is the key to implementing the exemplary project in elementary grades 1-5. He serves primarily as a consultant to teachers in integrating occupational information into existing subject matter areas. The elementary school program is addressed to combining occupational information and discussions regarding attitudes and work habits with the on-going curricular programs. This purpose is accomplished through the use of

supplementary curricular materials (films, tapes, etc.), field trips, guest speakers from the community and from high school cooperative education programs.

Curricular materials provide information about the structure of occupations which affect the lives of the students and demonstrate how the persons with whom the students are in immediate contact contribute through their work to the economic productivity of society. The positive value of work and the personal and social significance of the individual's job are stressed. The curricular materials selected relate to a constantly expanding occupational environment commensurate with the level of maturity of the students.

A Paraprofessional takes over the classroom so that teachers can consult with the Elementary Occupational Information Specialist. His additional responsibilities include developing group guidance programs and providing individual counseling.

At the junior high level (grades 6-8), the Middle Grades Counselor-Coordinator supervises the activities of one Paraprofessional. The middle-grades program is centered in an Occupational Resources Center managed by the Middle Grades Counselor-Coordinator. This Center performs four essential functions. First, it serves as a centralized source of occupational materials for use by students and teachers. Second, the Center, through the Middle Grades Counselor-Coordinator, serves as a locale for individual student counseling and for occupational exploration, as a point of departure for field trips and on-site observations, and as a laboratory for exercises in career decision-making. Third, it serves as a locale for group guidance

programs to be conducted by the Counselor-Coordinator in cooperation with the teachers in the school. These programs explore attitudes toward the self and toward the working world. Fourth, the Center serves as a site for in-service seminars and workshops and as a curriculum instruction laboratory in which the Counselor-Coordinator can consult with teachers about incorporating occupational education materials into their curriculum.

Curricular changes within the middle-grades school must be largely internal. The scope of the existing middle-grades curriculum precludes the proliferation of courses at this level; therefore, the effort is being directed toward integration within the existing curriculum. Programs now in the school, such as industrial arts, agriculture, and home economics, serve to provide the "hands-on" exploratory experiences. The Center provides additional experiences designed to explore the total range of the occupational structure and to emphasize occupations which are not being included in existing courses in the school.

The Middle Grades Counselor-Coordinator also works closely with the General Occupational Education Coordinator in identifying potential dropouts, providing intensive counseling, and arranging for specialized skill training. The intent is not to encourage students to drop out of school, but to provide both the student and the school system with a second chance for a more occupationally relevant education program.

The Apex exemplary program provides for two additional functions within the secondary school: placement services and intensive training programs. The placement service is performed by the High School Counselor-Coordinator. He functions as a placement officer for the secondary school and, when needed, for the junior high school. His

goal is to place, in coordination with existing agencies and businesses, all persons under 21 years of age who seek employment. A second aspect of his position involves intensive occupational counseling of students in their last two years of school and counseling of potential dropouts prior to the time of their dropping out. The High School Counselor-Coordinator also consults with teachers on methods of integrating occupational information into existing subject matter areas. Within the Occupational Information Center, he schedules, maintains, and distributes m[illegible]ls for use by teachers in classroom instruction. The High Sch[illegible] Counselor-Coordinator is aided by one Paraprofessional directly responsible to him.

The General Occupational Education Coordinator is responsible for establishing short-term specialized training programs for students who are likely to leave school, with or without a high school diploma, and who have not developed a salable skill while in school. Special Courses Personnel are used to install these courses. The Special Courses Personnel have job skills in specific areas and may have had little formal education, but they have had years of experience. The General Occupational Education Coordinator is also responsible for coordinating the extant occupational (vocational) education programs, for involving community business concerns in the program, for establishing on-site work observation experiences, for scheduling relevant lecturers, and utilizing programs of Manpower and similar agencies. One Paraprofessional, supervised by the General Occupational Education Coordinator, aids in these activities.

Finally, it needs to be noted that the major tool selected to bring about changes in the existing curriculum is in-service teacher training.

As noted, previously, this aspect of the program is the responsibility of the Associate Project Director; all project personnel make contributions. Workshops are being conducted to (1) provide orientation to the career guidance frame of reference within which the project operates; (2) present teachers with a methodology for incorporating occupation information into academic instruction in a manner which will enhance the relevancy to the students; (3) provide guidance for teachers in formulating lesson plans which will include specific occupational information appropriate to the grade level; (4) assist teachers in planning for individualized instruction in specific occupational areas for interested students; and (5) assist teachers in the development of courses of instruction for each subject matter area on a unit-by-unit basis which will permit the incorporation of occupational materials of many types into the regular curriculum.

It must be pointed out that the purpose of the Apex program is not to effect massive changes in the manner in which information is presented in the schools, but rather to influence change by revising content and adding personnel with special duties relevant to occupational education. Thus, the teacher, upon whom the success of the program ultimately depends, is not being forced to radically change teaching methods, but is encouraged to introduce new concepts into the existing instructional programs.

In summary, the Apex exemplary program in occupational education is designed to expand career exploration and availability of occupational information to the lower and middle grades, to increase opportunities for work experience and cooperative education, to provide for specialized skill training prior to leaving school, and to initiate

a placement service integrated with the counseling function in the school system.

EVALUATION

Primary Product Objectives

1. To increase student (grades 4-12) interest in academic subjects.
2. To increase student (grades 6-12) awareness of their self-attributes, personality traits, aptitudes, abilities, and interests.
3. To increase the positiveness of student (grades 6-12) attitudes toward themselves and others.
4. To increase the positiveness of student (grades 6-12), parent, teacher, and administrative personnel attitudes toward occupational education.
5. To increase student (grades 6-12) knowledge of occupations and occupational environments.
6. To increase student (grades 9-12) interest in obtaining job entry level skills.
7. To increase student (grades 9-12) and teacher satisfaction with curricular offerings.
8. To increase student interest (grades 10-12) in postsecondary training.
9. To have each student (grades 1-12) know the occupations of each member of his immediate family (mother, father, brothers, sisters).
10. To increase by 5 per year the number of occupations that students (grades 1-5) can list.
11. To increase by 5 per year the number of "good" work habits each student (grades 1-12) can list.
12. To increase by 10 percent per year the percentage of high school students enrolled in vocational programs.

13. To increase by 10 percent per year the percentage of students (grades 6-12) participating in work experience programs.
14. To increase by 10 percent per year the percentage of students applying for postsecondary education.
15. To increase by 2 per year the number of high school course offerings in vocational areas.
16. To increase by 15 percent per year the percentage of requests for career guidance services (grades 6-12).
17. To increase by 20 percent per year the percentage of parental conferences with both guidance and project personnel.
18. To increase to 100 percent of enrolled students, within the three years of the program, the percentage of students using the occupational information centers (grades 4-12).
19. To increase to 100 percent, in the three years of the project, the percentage of school dropouts and school graduates who do not plan to enter a postsecondary school with job entry level skills.
20. To place in employment 100 percent of graduates and dropouts who seek employment and reemployment within the three years of the program.

Secondary Product Objectives

1. To increase by ___ centiles per year the average academic achievement of students (grades 1-12) as measured by the California Test of Basic Skills.
2. To decrease by ___ percent per year the dropout rate (grades 6-12).
3. To increase by ___ percent per year the average daily attendance percentage (grades 1-12).

4. To decrease by ___ percent per year the percentage of grade failures without altering academic standards (grades 1-12).

The following represents the product evaluation activities accomplished as of the date of this interim report. Data, historical and/or baseline, are presented for primary product objectives 3, 4, 9, 10, 11, 12, 14, 15, 16, 17, 18; and secondary product objectives 2, 3, and 4. The annual evaluation report will detail each product objective listed above.

Participants

Of the 2,337 students enrolled in the Apex attendance area schools, 2,203 students are treated in evaluation analyses. The 59 special education/modified curriculum students and the 75 kindergarten students constitute the 134 students not included in the analyses. The Apex exemplary project, as implemented, focuses on three particular grade strata, these being the elementary grades (1-5), the middle grades (6-8), and the high school (9-12). Table 14 indicates the number of students in each of these grade strata included in the evaluation.

Table 14. Number of Students Included in Evaluation, 1970-1971.

Grade Strata	Number
1-5	1043
6-8	567
9-12	593
TOTAL	2203

Of the salaried employees in the four Apex attendance area schools, 113 are included for evaluative purposes (custodial and kitchen staff were excluded). Table 15 lists these participants by specific job category.

Table 15. Salaried Employee Participants, Apex Exemplary Project, 1970-1971.

Category	Number	Percent of Total
Administrators	5	4.42
Classroom Teachers	85	75.22
Reading Specialists	3	2.65
I. C. T.	1	.88
Guidance Counselors	1	.88
Special Education/ Modified Curriculum	3	2.65
Librarians	5	4.42
E. S. E. A. Aides	10	8.85
TOTAL	113	

As mentioned previously in this report, data upon which to base a description of the parents of students, as well as the student themselves, in the Apex attendance area schools is incomplete as yet. A complete description of these participants will be included in the annual evaluation report.

Data Presentation

Primary Objective 3:

> To increase the positiveness of student (grades 6-12) attitudes toward themselves and others.

A 64-item, untitled attitude scale was developed to assess the positiveness of student attitudes toward themselves and others. The scale is a composite adaptation of 41 selected items from the 64-item "Acceptance of Self and Others" scale developed by E. Berger (23, 433),

and 23 selected items from "The Self-Others Questionnaire," a 50-item scale developed by E. L. Phillips (23, 429). The instrument is essentially a Likert-type scale, except that it uses a modified response mode (Appendix 5B). Thirty-five items measure attitude towards self, and 29 items measure attitude towards others. Therefore, two subscores are obtained.

The score for each item ranges from 1 to 5, with a low total subscore indicating a more favorable attitude toward self or others, i.e., a total subscore of 29 and 35 on the items measuring attitudes toward others and self, respectively, would indicate the most positive attitude in each case.

The scale was administered to grades 9-12 on February 15, 1971. The five English teachers in the high school, using prepared administrative instructions (Appendix 5A), administered the scale during each of their five class periods. A 30-minute time limit was imposed. Four hundred and sixty-eight, or 79.29 percent of the 593 students in the school were tested: 158 of 197, ninth grade; 105 of 152, tenth grade; 91 of 121, eleventh grade; and 114 of 123,, twelfth grade. Table 16 illustrates the return percentages by grade level.

Table 16. Percentage Returns on Attitude Toward Self and Others Scale, Grades 9-12, February 15, 1971.

Grade	Total Enrollment	Total Returned	Percent Returned
9	197	158	80.20
10	152	105	69.08
11	121	91	75.21
12	123	114	92.68
Total	593	468	79.29

One statistical analysis has been completed on the results of the administration--reliability coefficients, as computed by the analysis of variance estimation formula developed by Cyril J. Hoyt (14, 108), were .865 and .655 for the items measuring attitude toward self and others, respectively, in the 9th grade (N = 158) only. As soon as the scoring of these tests is completed, an additional analysis of item discrimination will be accomplished, and those items which do not discriminate between high and low attitudes will be deleted for purposes of both scoring and further analysis. Reliability coefficients will be computed by grade level and over-all.

Primary Objective 4:

> To increase the positiveness of student (grades 6-12), parent, teacher, and administrative personnel attitudes toward occupational education.

A 38-item, untitled attitude scale (Appendix 6) was developed to measure the positiveness of attitudes of the Apex school system teachers and administrators toward vocational education. The scale is a composite of 11 selected items from the 39-item "Opinions About Vocational Education" instrument (7); 15 selected items from the 60-item instrument, "Vocational Education Information Inventory," developed by Harold M. Byram (5, 113); and 12 selected items from the 20-item instrument entitled "Attitude Toward Vocational Education," developed by Melville G. Parker and Richard A. Baker (22). It utilizes the Likert attitude scaling technique, with the choice of answers being SA (strongly agree); A (agree); ? (undecided); D (disagree); and SD (strongly disagree). For items which are worded positively towards vocational education, the alternative responses are weighted from 5

(strongly agree) to 1 (strongly disagree). For items worded negatively, the weights are reversed. The individual's score is the sum of the weighted alternatives endorsed by him, with a high score indicating a positive attitude towards vocational education.

The attitude scale was administered to the teachers, teachers' aides, and administrators in the four Apex schools on November 20, 1970. Each of the respondents was allowed one week to complete the questionnaire and return it. Although certain personal information (Appendix 6) was requested of the subjects, none were asked to identify themselves by name. Eighty-three of the 113 individuals responded to the questionnaire, for an overall return of 73.45 percent (Table 17).

Table 17. Percentage Returns on Attitude Toward Vocational Education Scale, November 1970.

Category	Total	Total Returned	Percent Returned
Teachers			
Elementary (1-5)	39	29	74.36
Middle Grades (6-8)	22	12	54.54
High School (9-12)	32	24	75.00
Elementary & Middle Grades (1-8)	5	5	100.00
Administrators	5	4	80.00
Aides	10	9	90.00
TOTAL	113	83	73.45

The completed scales were individually scored by the evaluation staff, obtaining both item and total scores. Respondents scoring in the top and bottom 25 percent (total score) were determined, and the difference between the mean item scores of these criterion groups was

used as an index of the discriminating power of each item. Four items (nos. 4, 20, 22, and 28) did not obtain a t value ≥ 2.021 ($\alpha = .05$) and were deleted for scoring purposes. Four additional items (nos. 7, 10, 13, and 37) were deleted for scoring purposes on the basis of factor analysis. Table 18 illustrates the results, based on the remaining 30 items.

Table 18. Results of Attitude Toward Vocational Education Scale, November 1970, Total Possible Score = 150.

Category	N	Mean	Mode	Median	Range
Teachers					
Elementary (1-5)	29	120.07	None	119	106-143
Middle Grades (6-8)	12	124.42	116	118	112-150
High School (9-12)	24	124.67	115	124	112-147
Elementary & Middle Grades (1-8)	5	135.60	133	135	133-141
Administrators	4	131.50	None	132	123-139
Aides	9	114.89	None	116	100-129
TOTAL	83	123.06	116	121	100-150

Table 19 illustrates the number of responses per item, by response mode, of the remaining 30 items of the scale. Also included are the mean item score and the t value obtained per item based on the comparison of top and bottom criterion groups mentioned above.

Table 19. Responses Per Item of Attitude Toward Vocational Education Scale, November 1970[1].

Item	SA	A	(?)	D	SD	Mean Score[2]	t-Test[3]
1	36	38	5	3	1	4.265	5.116
2	16	43	7	17	0	3.699	3.387
3	33	43	7	0	0	4.313	5.185
5*	0	0	6	47	30	4.289	7.706
6*	1	3	4	42	33	4.241	4.232
8	23	53	4	3	0	4.157	5.449
9*	1	0	2	37	43	4.458	4.181
11	15	43	20	5	0	3.819	5.396
12*	1	3	18	35	26	3.988	5.143
14	28	47	6	1	1	4.205	3.763
15*	0	0	8	50	25	4.205	5.316
16*	1	16	20	36	10	3.458	4.937
17*	0	3	8	50	22	4.096	3.391
18*	0	0	0	39	44	4.530	4.754
19	18	38	22	5	0	3.831	3.901
21*	0	0	3	52	28	4.301	4.738
23*	2	4	6	48	23	4.036	4.785
24*	0	2	20	44	17	3.916	3.467
25*	0	0	0	41	42	4.506	6.170
26	26	54	2	1	0	4.265	4.236
27	4	70	6	3	0	3.904	2.578
29*	1	3	12	50	17	3.952	4.715
30	23	53	4	3	0	4.157	6.602
31	11	69	3	0	0	4.096	3.412
32	18	57	8	0	0	4.120	3.784
33*	0	5	16	40	22	3.952	5.566
34	12	43	24	4	0	3.759	4.064
35*	0	9	6	50	18	3.928	6.251
36	38	43	1	1	0	4.422	6.952
38*	2	1	8	40	32	4.193	5.297

[1]Scale: SA = Strongly Agree; A = Agree; (?) = Undecided; D = Disagree; SD = Strongly Disagree.

[2]Score Bases: SA = 5; A = 4; (?) = 3; D = 2 SD = 1.

[3]Computed for the .05 level of significance ($_{.05}t_{23, 21} = 2.021$).

*For items with asterisks, score bases are reversed.

A 20-item, untitled attitude scale (Appendix 7B) was developed to measure the positiveness of attitudes toward vocational education of the students in the Apex school system and their parents. The instrument is a composite adaptation of 12 selected items from the 39-item "Opinions about Vocational Education" instrument (7), one item from the 60-item "Vocational Education Information Inventory" (5, 113), and seven items from the 20-item "Attitude Toward Vocational Education" instrument (22).

The scale utilizes the Likert attitude scaling technique, with the response modes being SA: I Strongly Agree with the statement; A: I Agree with the statement; ?: I am Undecided about the statement; D: I Disagree with the statement; and SD: I Strongly Disagree with the statement.

Ten items are worded positively towards vocational education and 10 negatively. The alternative responses are weighted from 5 (SA: I Strongly Agree with the statement) to 1 (SD: I Strongly Disagree with the statement) for those items worded positively; weights are reversed for those which are negatively worded. The individual's score is the sum of the weighted alternatives chosen by him, with a high score (total possible score = 100) indicating a positive attitude.

The attitude scale was administered to the 9th, 10th, 11th, and 12th grade students (It has not yet been administered to parents.) by the respective homeroom teachers on February 16, 1971 (Appendix 7A). A ten-minute time limit was imposed. Table 20 indicates the percentage returns by grade level.

Table 20. Percentage Returns on Attitude Toward Vocational Education Scale, Students, February 16, 1971.

Grade	Total Enrollment	Total Returned	Percent Returned
9	197	168	85.28
10	152	136	89.47
11	121	102	84.30
12	123	111	90.24
TOTAL	593	517	87.32

The completed scales were individually scored by the evaluation staff, for both item scores and total scores. A total of 18 respondents were eliminated from analyses because of incomplete questionnaires. Respondents scoring in the top and bottom 25 percent (by total score) were determined within each grade level, and the difference between the mean item scores of these criterion groups was used as an index of the discriminating power of each item. Factor analysis was also accomplished to determine the homogeneity of the instrument. Table 21 illustrates the results, based on the 20-item scale.

Table 21. Results of Attitude Toward Vocational Education Scale, Students, February 16, 1971, Total Possible Score = 100.

Grade	N	Mean	Mode	Median	Range	S.D.
9	159	73.11	76, 77	74	52-98	7.02
10	132	75.80	74, 76	76	52-90	5.93
11	98	76.11	68, 76	76	51-97	6.47
12	110	76.96	77	77	58-95	5.92
TOTAL	499	75.49	76, 77	76	51-98	6.33

Table 22 illustrates the number of responses per item, by response mode, for the overall group, grades 9-12, N = 499. See Appendix 8 for the results by grade level.

Table 22. Responses Per Item of Attitude Toward Vocational Education Scale, Students, February 16, 1971.[1]

Item	SA	A	(?)	D	SD	Mean Score[2]	T-Test[3]
1*	18	48	23	260	130	3.874	13.376
2	155	302	25	12	5	4.182	7.908
3*	6	30	45	271	147	4.048	10.160
4	68	295	103	23	10	3.777	7.951
5*	6	20	81	284	108	3.938	10.670
6	82	311	60	38	8	3.844	7.162
7	119	274	73	28	5	3.950	7.141
8*	19	55	92	251	82	3.645	9.764
9	39	266	119	67	8	3.523	2.664
10*	9	24	35	287	144	4.068	10.437
11*	12	14	32	248	193	4.194	13.330
12	81	278	97	36	7	3.781	9.681
13	75	258	89	61	16	3.631	8.968
14*	41	247	106	81	24	2.599	5.131
15*	10	30	36	177	246	4.240	9.982
16	50	183	199	51	16	3.401	5.814
17*	9	16	19	199	256	4.357	11.641
18	76	251	104	55	13	3.645	7.660
19	89	274	115	20	1	3.862	7.995
20*	109	136	82	131	41	2.717	6.180

[1]Scale: SA = Strongly Agree; A = Agree; (?) = Undecided; D = Disagree; SD = Strongly Disagree.

[2]Score Bases: SA = 5; A = 4; (?) = 3; D = 2; SD = 1.

[3]Computed for the .05 level of significance ($_{.05}t_{139,\ 138} = 1.960$).

*For items with asterisks, score bases are reversed.

The overall item mean score was 3.742. Reliability coefficients, computed by the analysis of variance estimation formula previously mentioned, are shown in Table 23.

Table 23. Reliability Coefficients Obtained on Attitude Toward Vocational Education Scale, Students, February 16, 1971.

Grade	N	r_{tt}
9	159	.737
10	132	.727
11	98	.784
12	110	.732
TOTAL	499	.750

Primary Objective 9:

> To have each student (grades 1-12) know the occupations of each member of his immediate family (mother, father, brothers, sisters).

Primary Objective 10:

> To increase by 5 per year the number of occupations that students (grades 1-5) can list.

Primary Objective 11:

> To increase by 5 per year the number of "good" work habits each student (grades 1-12) can list.

A three-item instrument was developed to measure these three objectives; with one item covering one objective (Appendices 9 and 10). The first item asked each student to list as many occupations as he could. The second item asked each student to state the occupations of his mother and father, and the number of his brothers and sisters and their respective occupations. The third item asked each student to list as many "good" work habits as he could.

In the latter part of September 1970, all three of the above items were administered to grades 1-5, and the second and third items were administered to grades 6-12. The questionnaires were verbally administered, on an individual basis, to students in grades 1-3 during the school day. Students in grades 4-8 completed the questionnaires during one homeroom period. Due to a misinterpretation of instructions, students in grades 9-12 were permitted to take the forms home, fill them out, and return them to their homeroom teachers within approximately one week. The percentage returns are presented in Table 24.

Table 24. Percentage Returns on 3-Item Questionnaire Covering Primary Objectives 9, 10 and 11, September 1970.

School	Grade	Total Enrollment	Total Returned	Percent Returned
Holly Springs	1	52	46	88.46
Holly Springs	2	61	56	91.80
Holly Springs	3	49	47	95.91
A. V. Baucom	1	159	147	92.45
A. V. Baucom	2	144	140	97.22
A. V. Baucom	3	169	162	95.85
Holly Springs and A. V. Baucom	1	211	193	91.46
Holly Springs and A. V. Baucom	2	205	196	95.60
Holly Springs and A. V. Baucom	3	218	209	95.87
Apex Elementary	4	207	174	84.05
Apex Elementary	5	202	188	93.06
Apex Elementary	6	211	186	88.15
Apex Elementary	7	171	164	95.90
Apex Elementary	8	185	172	92.97
Apex High	9	197	164	83.25
Apex High	10	152	117	76.97
Apex High	11	121	72	59.50
Apex High	12	123	105	85.36
TOTAL	1-12	2,203	1,940	88.73

The questionnaires were individually scored by the evaluation staff. Correctness of the responses to the second item (occupations of members of the family) was based on listing an occupation--not a job duty, "chore," or name of place of employment--for each member of the family. The total possible score was 4, 1 point for each of the four parts of the question. An occupation must have been listed for each brother and/or sister to have that part marked correct; student was accepted as an occupation. The accuracy of the students' responses have been accepted at face value; school records list occupations of parents, but have rarely been updated since the entrance of the child into the school system. A frequency count was made of the number of occupations and work habits listed in response to, respectively, the first and third items. ("Careful" was accepted as a good work habit even though listed as the item example.)

The questionnaire results for product objectives 9, 10, and 11 are presented in Tables 25, 26, and 27. These data are to serve as baseline data.

Table 25. Results of Test Question Covering Primary Objective 9, Occupations of Members of Immediate Family, September 1970[1].

School	Grade	N	Mean	S.D.	Median	Mode	Range
Holly Springs	1	46	3.54	0.66	4.0	4.0	2-4
Holly Springs	2	56	3.43	0.99	4.0	4.0	0-4
Holly Springs	3	47	3.21	0.95	3.0	4.0	0-4
A. V. Baucom	1	147	3.35	0.82	4.0	4.0	1-4
A. V. Baucom	2	140	3.45	0.68	4.0	4.0	2-4
A. V. Baucom	3	162	3.38	0.72	4.0	4.0	2-4
Holly Springs and A. V. Baucom	1	193	3.40	0.78	4.0	4.0	1-4
Holly Springs and A. V. Baucom	2	196	3.44	0.78	4.0	4.0	0-4
Holly Springs and A. V. Baucom	3	209	3.34	0.77	4.0	4.0	0-4
Apex Elementary	4	174	2.72	1.26	3.0	4.0	0-4
Apex Elementary	5	188	2.89	1.23	3.0	4.0	0-4
Apex Elementary	6	186	2.70	1.26	3.0	4.0	0-4
Apex Elementary	7	164	3.30	0.92	4.0	4.0	0-4
Apex Elementary	8	172	3.31	0.89	4.0	4.0	0-4
Apex High	9	164	3.16	0.99	3.0	4.0	0-4
Apex High	10	117	3.38	0.86	4.0	4.0	1-4
Apex High	11	72	3.44	0.75	4.0	4.0	1-4
Apex High	12	105	3.33	1.04	4.0	4.0	0-4

[1]Total possible score is 4.0; 1 point for correct occupation mother, 1 point for correct occupation father, 1 point for correct occupation(s) brother(s), and 1 point for correct occupation(s) sister(s).

Table 26. Results of Test Question Covering Primary Objective 10, Number of Occupations, September 1970.

School	Grade	N	Mean	S.D.	Median	Mode	Range
Holly Springs	1	46	1.89	1.32	2.0	1.0	0-6
Holly Springs	2	56	2.55	2.56	2.0	2.0	0-13
Holly Springs	3	47	4.66	4.37	4.0	3.0/5.0	0-25
A. V. Baucom	1	147	1.28	1.96	1.0	0.0	0-15
A. V. Baucom	2	140	2.18	2.40	1.0	1.0	0-13
A. V. Baucom	3	162	3.36	3.52	2.0	1.0	0-17
Holly Springs and A. V. Baucom	1	193	1.43	1.84	1.0	1.0	0-15
Holly Springs and A. V. Baucom	2	196	2.29	2.44	2.0	1.0	0-13
Holly Springs and A. V. Baucom	3	209	3.65	3.76	2.0	1.0	0-25
Apex Elementary	4	174	4.32	4.00	3.0	1.0	0-21
Apex Elementary	5	188	4.04	3.92	3.0	0.0	0-27

Table 27. Results of Test Question Covering Primary Objective 11, Number of Good Work Habits, September 1970.

School	Grade	N	Mean	S.D.	Median	Mode	Range
Holly Springs	1	46	0.09	0.35	0.0	0.0	0-2
Holly Springs	2	56	0.05	0.23	0.0	0.0	0-1
Holly Springs	3	47	0.11	0.37	0.0	0.0	0-2
A. V. Baucom	1	147	0.05	0.43	0.0	0.0	0-5
A. V. Baucom	2	140	0.13	0.36	0.0	0.0	0-2
A. V. Baucom	3	162	0.18	0.50	0.0	0.0	0-2
Holly Springs and A. V. Baucom	1	193	0.06	0.41	0.0	0.0	0-5
Holly Springs and A. V. Baucom	2	196	0.11	0.33	0.0	0.0	0-2
Holly Springs and A. V. Baucom	3	209	0.16	0.47	0.0	0.0	0-2
Apex Elementary	4	174	0.72	1.13	0.0	0.0	0-5
Apex Elementary	5	188	0.86	1.29	0.0	0.0	0-8
Apex Elementary	6	186	0.98	1.37	0.0	0.0	0-8
Apex Elementary	7	164	0.71	1.26	0.0	0.0	0-8
Apex Elementary	8	172	1.37	1.47	1.0	0.0	0-6
Apex High	9	164	0.75	1.02	0.0	0.0	0-4
Apex High	10	117	1.31	1.69	1.0	0.0	0-9
Apex High	11	72	1.93	2.32	1.0	0.0	0-10
Apex High	12	105	2.30	2.32	2.0	0.0	0-10

Primary Objective 14:

To increase by 10 percent per year the percentage of students applying for postsecondary education.

The percentage of students actually applying, during their 12th year, for postsecondary education could not be ascertained for the historical period. The only records available on this particular subject are based on follow-up studies conducted to determine the number of high school graduates from the Apex attendance area who actually entered into postsecondary training. Table 28 reflects the results of the follow-up studies.

Table 28. Percentage of High School Graduates from the Apex Attendance Area Schools Enrolled in Postsecondary Education Institutions, 1964-1969.

School Year	Total Membership 12th Grade	Total Enrolled Postsecondary Institutions[1]	Total Enrollment
1964-1965	118	56	47.46
1965-1966	115	46	40.00
1966-1967	126	46	36.51
1967-1968	124	48	38.71
1968-1969	125	38	30.40
TOTAL	608	234	38.49

[1]Postsecondary institutions include: Four year colleges and universities, 2 year colleges, technical institutes (state and non-state), and business schools. Figures include only those attending postsecondary institutions at the beginning of the school year immediately following graduation.

Primary Objective 15:

To increase by two per year the number of high school course offerings in vocational areas.

Wake County school system records indicate that the number of high school course offerings in vocational areas for Apex attendance area students was as shown in Table 29. The number for the present school year, 1970-1971, is included.

Table 29. Number of High School Course Offerings in Vocational Areas, Apex Attendance Area Schools, 1964-1971.

School Year	Number of Course Offerings[1]	Increase Over Previous Year
1964-1965	3	
1965-1966	4	1
1966-1967	5	1
1967-1968	7	2
1968-1969	7	0
1969-1970	8	1
1970-1971	8	0

[1]Courses were offered during the 1964-1965 school year in vocational agriculture, home economics, and business. Carpentry was added in 1965-1966; I. C. T. in 1966-1967; electronics and drafting were made available to Apex students by the Cary attendance area schools in 1967-1968; drafting was integrated into the Apex High School curriculum in 1968-1969; and culinary arts was added in 1969-1970.

Primary Objective 16:

To increase by 15 percent per year the percentage of requests for career guidance services (grades 6-12).

Primary Objective 17:

To increase by 20 percent per year the percentage of parental conferences with both guidance and project personnel.

Historical data relating to these two primary objectives were furnished by the office of Wake County schools. Table 30 indicates the percentage of students requesting career guidance services, by school.

Table 30. Percentage of Students Requesting Career Guidance Services, Apex Attendance Area Schools, 1964-1970[1].

	School Year					
Schools	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70
Apex High[2]	20%	35%	100%	100%	100%	100%
Apex Elementary	10%	10%	50%	60%	75%	75%
A. V. Baucom	N/A	N/A	N/A	N/A	N/A	N/A
Holly Springs[3]	0	0	0	0	0	0

[1]Approximate figures obtained from guidance evaluation reports, assimilated by Frank L. Sullivan, Director of Pupil Personnel, Wake County Schools.

[2]All pupils in Apex High seen at least once per year since 1966.

[3]No counselor available.

Table 31 indicates the percentage of parental conferences with guidance personnel, based on one or more parents in conferences, for the Apex schools.

Table 31. Percentage of Parental Conferences with Guidance Personnel, One or More Parents in Conference, Apex Attendance Area Schools, 1964-1970[1].

	School Year					
Schools	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70
Apex High[2]	UNK	2%	5%	25%	25%	25%
Apex Elementary	UNK	UNK	3%	5%	5%	5%
A. V. Baucom	N/A	UNK	UNK	UNK	UNK	UNK
Holly Springs[3]	UNK	UNK	UNK	UNK	UNK	UNK

[1]Approximate figures obtained from guidance evaluation reports, assimilated by Frank L. Sullivan, Director of Pupil Personnel, Wake County Schools.

[2]Parent night begun at Apex High in 1967.

[3]No counselor available.

Primary Objective 18:

To increase to 100 percent of enrolled students, within the three years of the program, the percentage of students using the occupational information centers (grades 4-12).

The 1970-1971 school year will provide the baseline data for this objective. A preliminary analysis, performed for the purpose of this report, indicate that 25 different students (grades 6-8) have used the Occupational Information Center maintained by the Middle Grades Counselor-Coordinator at Apex Elementary, and that 168 different students (grades 9-12) have utilized the Occupational Information Center maintained by the High School Counselor-Coordinator.

Table 32. Percentage of Students Utilizing the Occupational Information Centers as of April 1, 1971.

Grades	Total Enrollment	Total Using Center	Percentage
6-8	567	25	4.41
9-12	621	168	27.05
TOTAL	1188	193	16.24

Both the Middle Grades Counselor-Coordinator and the High School Counselor-Coordinator devised a sign-in roster and began using them on approximately September 15, 1970. Upon entering the Occupational Information Center, each student enters his signature on the sign-in roster. Since the respective Centers are located in two different schools, there is little possibility of a middle-grades student entering his signature on the high school Occupational Information Center roster, or vice versa.

Secondary Objective 2:

To decrease by ___ percent per year the dropout rate (grades 6-12).

Records located at the main office of Wake County schools were examined to obtain the historical and baseline data pertaining to dropouts in the Apex attendance area.

The school system itself uses the following classifications for subcategorizing dropouts:

(1) Student passed the compulsory attendance age.

(2) Student was issued a work permit.

(3) Student experienced physical or mental disability.

(4) Student was committed to a correctional institution.

(5) Student entered the armed forces.

(6) Student left school because of marriage.

(7) Student was dismissed.

(8) Student died.

(9) Unknown reasons.

It was decided that, for the purposes of this evaluation, only those students included in subcategories 1, 2, 4, 5, 6, and 9, above, would be considered in determining the dropout rate for the Apex attendance area.

A slight modification of this objective is required, inasmuch as the records available reveal only the total number of dropouts (by subcategory) in grade strata 1-8, and 9-12; no figures by grade level exist. Therefore, it is impossible to compute dropout rates for the middle grades (6-8) or, as the objective reads, 6-12. It was possible, of course, to compute the dropout rate for grade strata 1-8 and 9-12. Table 33 gives the rate by school year for the high school.

Table 33. Dropout Rate in Grades 9-12, Apex Attendance Area Schools, 1964-1970.

School Year	Total Membership	Total Dropouts	Percentage[1]
1964-1965	583	51	8.04
1965-1966	565	36	5.99
1966-1967	564	37	6.16
1967-1968	552	23	4.00
1968-1969	554	25	4.32
1969-1970 (Baseline)	540	34	5.92
Six-Year Aggregate	3358	206	5.78

[1]Dropout rate is determined by dividing the sum of total membership and total dropouts by the number of dropouts.

Table 34 gives the rate by school year for the elementary grade strata, 1-8. The percentage rate is determined by the same method as in Table 33 above.

Table 34. Dropout Rate in Grades 1-8, Apex Attendance Area Schools, 1964-1970.

School Year	Total Membership	Total Dropouts	Percentage[1]
1964-1965	1656	35	2.07
1965-1966	1586	20	1.24
1966-1967	1570	24	1.50
1967-1968	1621	11	0.67
1968-1969	1652	5	0.30
1969-1970 (Baseline)	1666	4	0.24
Six-Year Aggregate	9751	99	1.00

The percentage rate for the lower grade strata, 1-8, shown above, almost certainly is not a true representation of the dropout problem in the elementary grades; i.e., very few dropouts, if any, could have occurred in grades 1-5.

Secondary Objective 3:

> To increase by ___ percent per year the average daily attendance percentage (grades 1-12).

Secondary Objective 4:

> To decrease by ___ percent per year the percentage of grade failures without altering academic standards (grades 1-12).

The data from which the historical and baseline percentages are computed for each of these two objectives is contained in the report entitled "Principal's Final Report," all of which are consolidated at the office of Wake County schools subsequent to each school year. Table 35 presents the average daily attendance percentages, and Table 36 presents the percentages for grade failure rate.

In conclusion, we feel that it must be noted that the lack of appropriate standardized instrumentation, with which to accurately measure the attainment of the objectives of the Apex Exemplary Project, led to the use of instruments as described above. These instruments must be considered to be in developmental status, to be validated by strict statistical analyses.

Table 35. Average Daily Attendance Percentages by Grade and School Year, Apex Attendance Area Schools, 1964-1970[1].

Grade	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	Baseline 1969-1970	Annual Trend[2]	Six-Year Average
1	93.82	92.12	92.77	92.52	93.15	92.17	-.33	92.75
2	95.82	94.04	92.94	93.12	93.65	92.40	-.68	93.65
3	95.07	93.77	94.28	94.27	93.93	93.88	-.24	94.20
4	94.26	94.20	93.97	93.54	94.98	94.91	+.13	94.33
5	94.65	93.76	93.25	94.97	94.84	94.70	+.01	94.35
6	96.14	94.36	94.33	95.48	95.95	95.68	-.09	95.35
7	95.93	94.86	93.68	94.53	95.01	94.92	-.20	94.86
8	95.53	94.28	91.43	92.64	93.27	95.27	-.05	93.75
9	95.56	95.06	90.51	92.85	94.47	91.72	-.77	93.34
10	95.06	93.34	93.79	93.79	96.02	94.71	-.07	94.45
11	95.63	94.51	92.65	94.79	95.32	93.96	-.33	94.49
12	95.76	94.74	93.43	94.74	95.09	95.20	-.11	94.82
School System	95.25	94.05	93.06	93.87	94.56	94.09	-.23	94.16

[1]Percentages computed by dividing the sum of students present daily by the sum of the daily student membership.

[2]Minus sign denotes decrease in average daily attendance percentage.

Table 36. Grade Failure Percentages by Grade and School Year, Apex Attendance Area Schools, 1964-1970[1].

Grade	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	Annual Trend[2]	Six-Year Average
1	14.35	17.97	7.04	13.19	2.41	1.86	-2.47	9.57
2	7.25	8.85	8.69	11.55	1.33	.96	-1.26	6.40
3	7.51	12.76	4.32	8.78	2.31	5.33	+ .44	6.74
4	5.73	3.63	3.78	9.47	1.43	0.00	-1.15	3.91
5	5.94	4.86	5.53	4.12	2.04	0.00	-1.19	3.70
6	6.36	2.05	3.35	3.43	1.50	0.00	-1.27	2.86
7	10.14	8.09	5.26	11.23	4.13	3.46	-1.34	6.99
8	4.59	4.19	7.25	7.37	6.70	1.01	- .72	5.14
9	11.98	18.12	11.56	13.92	21.21	15.00	+ .60	15.26
10	15.95	18.12	6.43	11.64	4.96	13.14	- .56	11.87
11	11.85	12.06	4.00	3.22	11.38	4.88	-1.39	8.04
12	5.08	6.96	4.76	.81	3.20	0.00	-1.02	3.43
School System	8.80	9.97	6.09	8.56	4.71	3.40	-1.08	6.86

[1]Percentages computed by dividing the total grade failures by the total membership in each grade.

[2]Minus sign denotes decrease in grade failure rate.

BIBLIOGRAPHY

1. Allport, G. W. "Attitudes." In C. Murchison (ed.), A Handbook of Social Psychology, Worcester: Clark University Press, 1935.

2. Apex Planning Board, C.B.D. Improvement Plan, Apex, North Carolina. Apex: September 1966.

3. Apex Planning Board, Community Facilities Plan, Apex, North Carolina. Apex: January 1966.

4. Bloom, B. S., Hastings, J. T., and Madaus, G. F. Handbook on Formative and Summative Evaluation of Student Learning. New York: McGraw-Hill, 1971.

5. Byram, H. M. Evaluation Systems for Local Programs of Vocational-Technical Education. East Lansing: Michigan State University, 1968. Final Report of Project No. BR-7-0211.

6. Clary, J. R. Attitudes of Public School Personnel Towards the Introduction to Vocational Programs in North Carolina. Raleigh: North Carolina State Board of Education, N. C. State University, 1967.

7. Coster, J. K. National Inservice Training Multiple Institutes for Vocational and Related Personnel in Rural Areas. Raleigh: North Carolina State University, 1969. Project No. BR-9-0472.

8. Coster, J. K. and Morgan, R. L. A Holistic Approach to Evaluating Occupational Education with Implications for Accreditation. Paper presented at The National Conference on Accreditation of Public Postsecondary Occupational Education, Atlanta, Georgia, June 11, 1970.

9. Edwards, A. L. Statistical Analysis. New York: Holt, Rinehart and Winston, 1959.

10. Glass, G. V. and Stanley, J. C. Statistical Methods in Education and Psychology. Englewood Cliffs: Prentice-Hall, 1970.

11. Guilford, J. P. Fundamental Statistics in Psychology and Education. New York: McGraw-Hill, 1965.

12. Hays, W. L. Statistics. New York: Holt, Rinehart and Winston, 1963.

13. House Report No. 1647, 90th Congress, 2nd Session. Report of House Committee on Education and Labor, 1968.

14. Hoyt, C. J. "Test Reliability Estimated by Analysis of Variance." In W. Mehrens and R. Ebel (editors), Principles of Educational and Psychological Measurement. Chicago: Rand McNally and Company, 1967.

15. Kerlinger, F. N. Foundations of Behavioral Research: Educational and Psychological Research and Inquiry. New York: Holt, Rinehart and Winston, 1965.

16. Mann, L. Population and Economy, Apex, North Carolina. Raleigh: North Carolina Department of Conservation and Development, Division of Community Planning, August 1963.

17. McKinney, F. "An Example of the Use of A Vocational Education Information Inventory." In Harold M. Byram, Evaluation Systems for Local Programs of Vocational-Technical Education. East Lansing: Michigan State University, 1968.

18. Mehrens, W. A., and Ebel, R. L., (editors). Principles of Educational and Psychological Measurement. Chicago: Rand McNally and Company, 1967.

19. Morgan, R. L., Coster, J. K., and Jones, J. B. The Implementation of a Comprehensive Occupational Education Program in a Rural School System. Raleigh: Center for Occupational Education, North Carolina State University, 1970. Proposal for Exemplary Program or Project in Vocational Education.

20. North Carolina Department of Conservation and Development, Division of Community Planning. Community Appearance Study, Apex, North Carolina. Raleigh: February 1969.

21. North Carolina Department of Conservation and Development, Division of Community Planning. Neighborhood Analysis, Apex, North Carolina. Raleigh: February 1969.

22. Parker, M. G. and Baker, R. A. Development of a Scale to Measure Attitudes Toward Vocational Education. Research and Development Report No. 1, Auburn: Occupational Research and Development Unit, Auburn University, 1970.

23. Shaw, M. E. and Wright, J. M. Scales for the Measurement of Attitudes. New York: McGraw-Hill, 1967.

24. U. S. Department of Commerce, Bureau of the Census, 1970 Census of Population, North Carolina (Advance Report). December 1970.

25. U. S. Department of Health, Education and Welfare. Preparing Evaluation Reports: A Guide for Authors. Washington: 1970.

26. Venn, Grant. Policy Paper AVL-V70-1. U. S. Office of Education, Division of Vocational-Technical Education, 1969.

27. Verbal communication with Mr. R. Flint, Triangle School, Farrington Road, Apex, North Carolina.

28. Vocational Education Amendments of 1968. Public Law 90-576.

29. Wake County Board of Education. Proposal for School Board Grant Program on School Desegregation Problems, Phase One. Raleigh: March 1968.

30. Wake County Board of Education. Proposal for School Board Grant Program on School Desegregation Problems, Phase Two. Raleigh: March 1969.

31. Wake County Board of Education. Proposal for School Board Grant Program on School Desegregation Problems, Phase Three. Raleigh: May 1970.

32. Wake County Public Schools, P. O. Box 6526, Raleigh, North Carolina 27608.

33. Winer, B. J. Statistical Principles in Experimental Design. New York: McGraw-Hill, 1962.

APPENDIX 1

WAKE COUNTY SCHOOLS ATTENDANCE AREAS 1970 - 1971

JUNE 4, 1970

APEX

A. V. Baucom
Apex Elem.
Apex High

CARY

Cary Elem.
Cary Sr. High
Kingswood Elem.
Henry Adams Elem.
Briarcliff Elem.
Swift Creek Elem.
Northwoods Elem.
West Cary Jr. High

FUQUAY - VARINA

Fuquay-Varina Elem.
Fuquay-Varina High
Holly Springs Elem.
Lincoln Heights Elem.
Willow Springs Elem.

GARNER

Aversboro Elem.
East Garner Jr. High
Fred A. Smith Elem.
Garner Elem.
Garner High
Garner Sr. High
Mount Auburn Elem.
Vance Elem.
Vandora Springs Elem.

KNIGHTDALE - WENDELL

Carver Child Dev. Center
Knightdale Elem.
Lockhart Jr. High
Riley Hill Elem.
Vaiden Whitley High
Wendell Elem.

MILLBROOK

Brentwood Elem.
Jeffreys Grove Elem.
Millbrook Elem.
Millbrook High
North Ridge Elem.
Vena Wilburn Elem.

ROLESVILLE

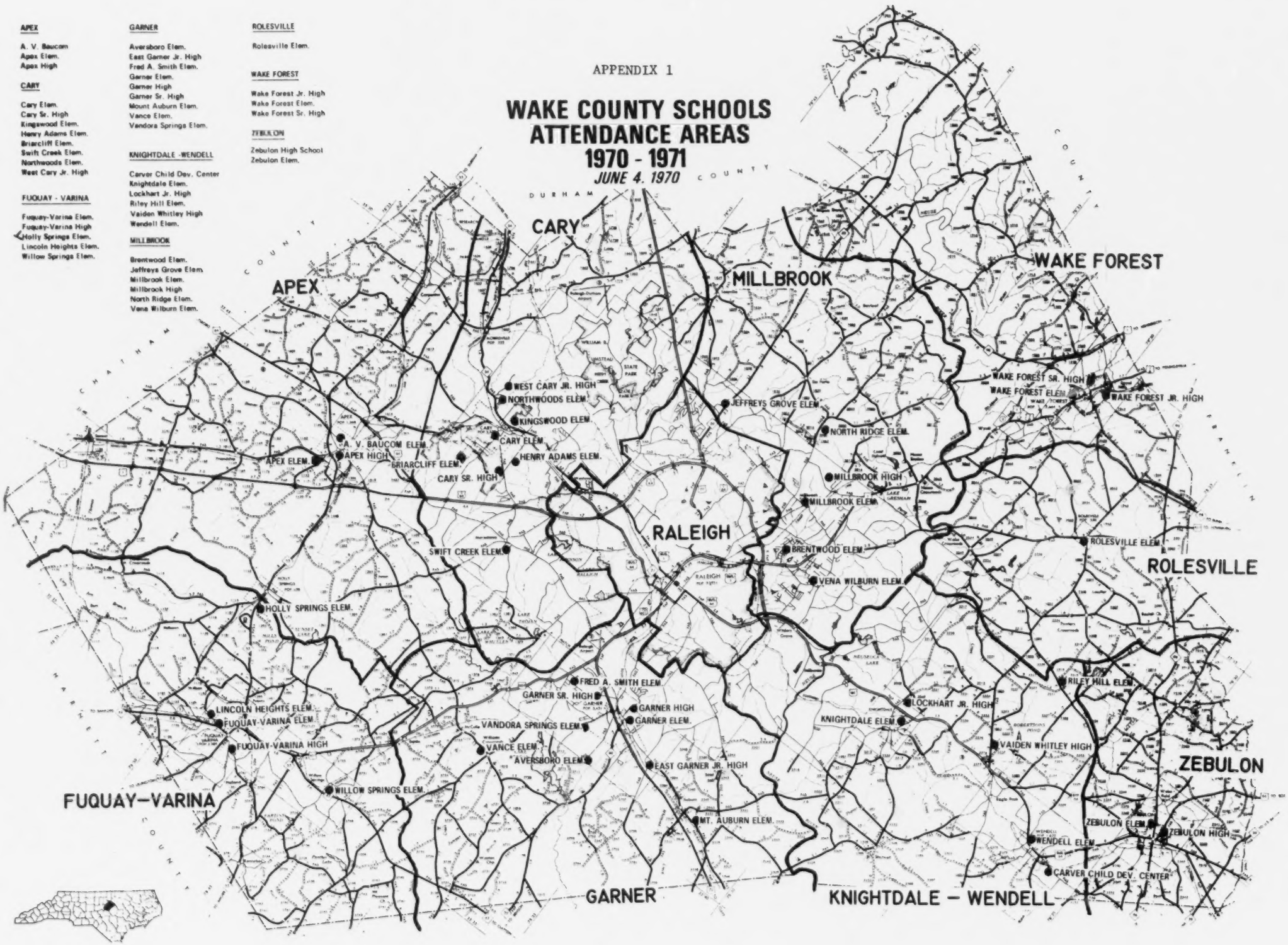
Rolesville Elem.

WAKE FOREST

Wake Forest Jr. High
Wake Forest Elem.
Wake Forest Sr. High

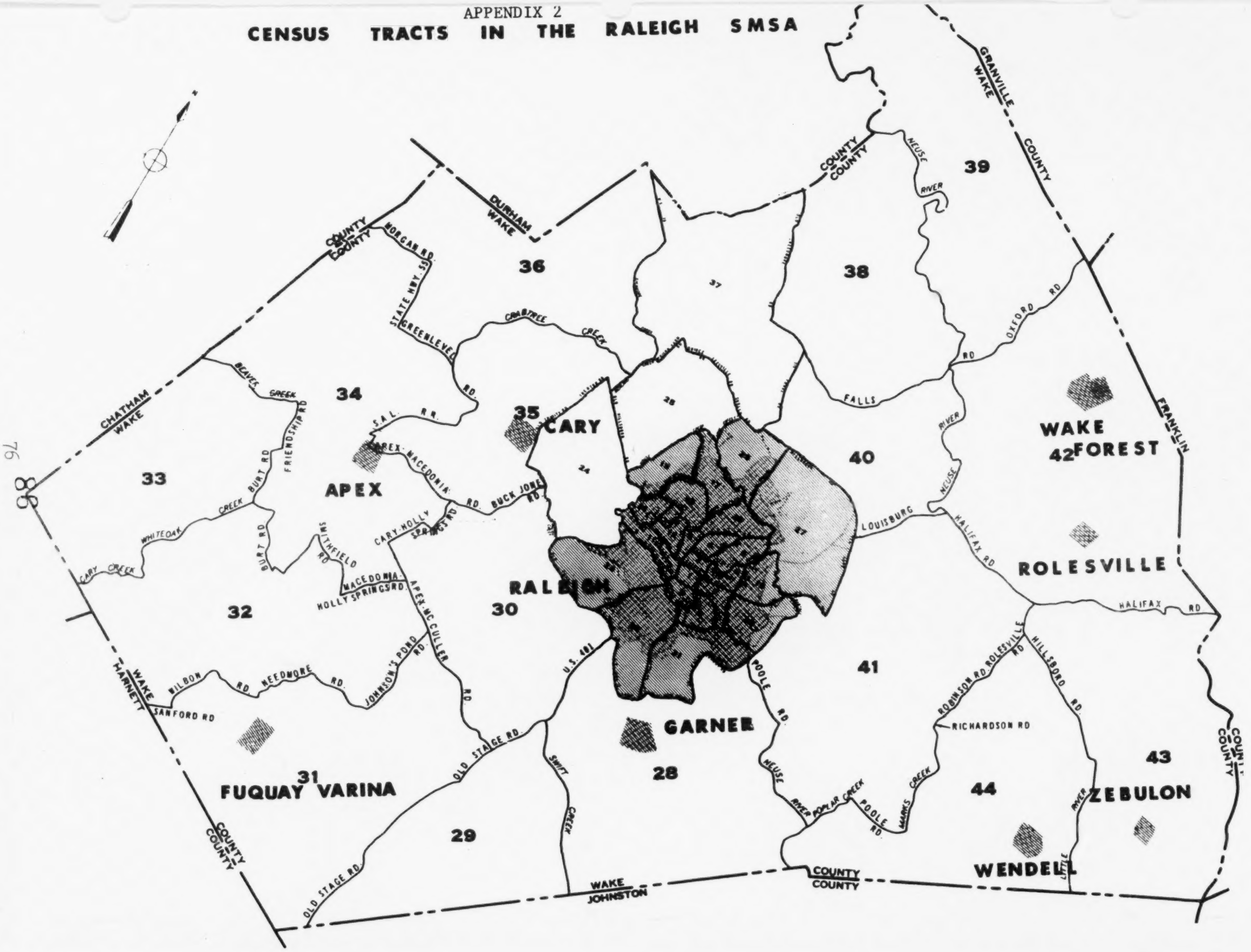
ZEBULON

Zebulon High School
Zebulon Elem.



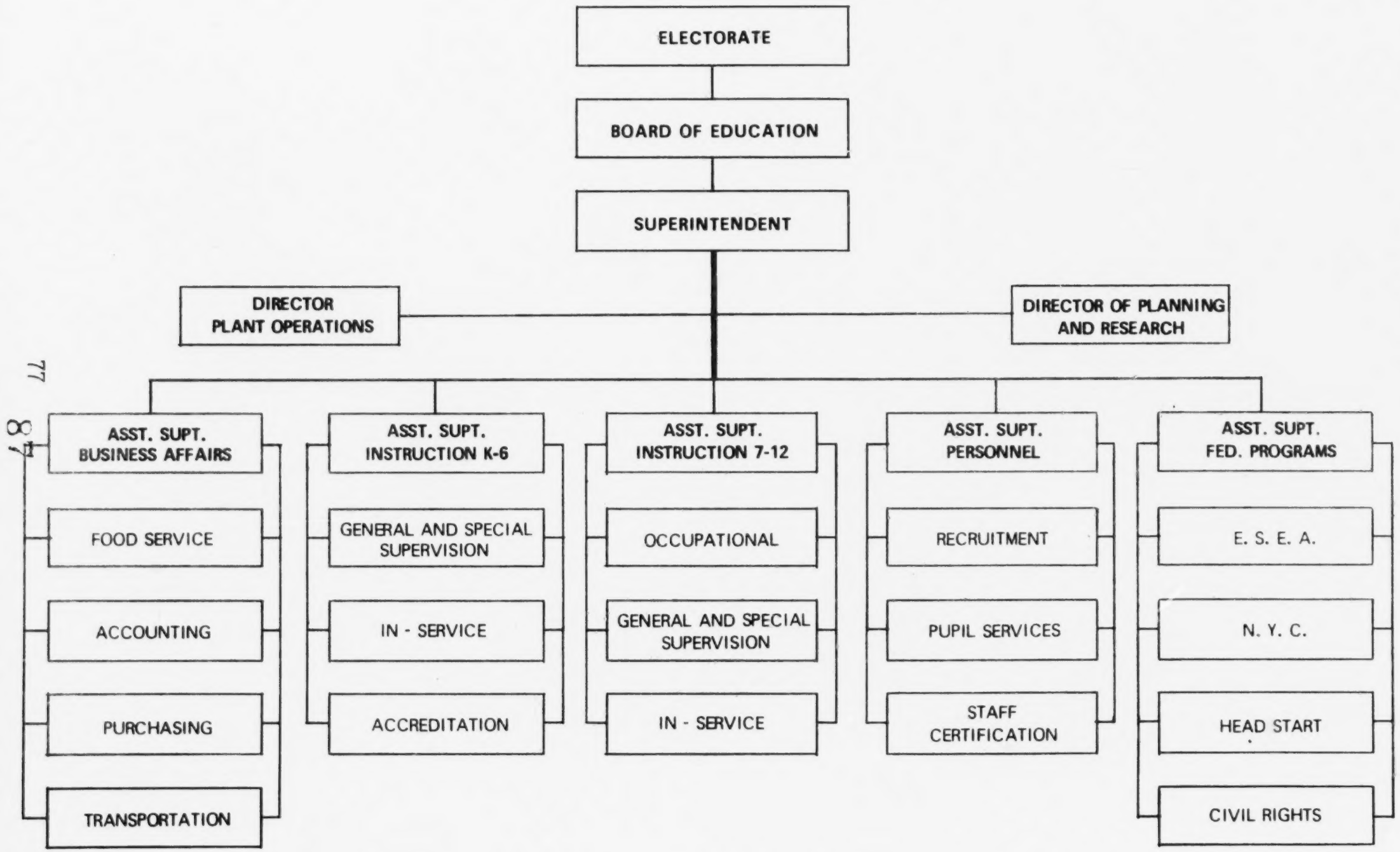
APPENDIX 2

CENSUS TRACTS IN THE RALEIGH SMSA



APPENDIX 3

ORGANIZATION OF WAKE COUNTY SCHOOLS



Plan No. 1

APPENDIX 4

INCOME SCALE FOR DETERMINING ELIGIBILITY FOR FREE AND REDUCED PRICE LUNCHES

FREE

FAMILY SIZE - INCOME	NUMBER OF CHILDREN IN SCHOOLS OR SERVICE INSTITUTIONS							
	1	2	3	4	5	6	7	8
1 Below $ 1200								
2 Below $ 1800								
3 Below $ 2400								
4 Below $ 3000								
5 Below $ 3500	ALL FREE							
6 Below $ 4100								
7 Below $ 4600								
8 Below $ 5100								

REDUCED

FAMILY SIZE - INCOME	NUMBER OF CHILDREN IN SCHOOLS OR SERVICE INSTITUTIONS							
	1	2	3	4	5	6	7	8
1 $ 1200 - 1920	20¢							
2 $ 1800 - 2520	20¢							
3 $ 2400 - 3120	20¢	F						
4 $ 3000 - 3720	20¢	F	F					
5 $ 3500 - 4270	20¢	F	F	F				
6 $ 4100 - 4820	20¢	20¢	F	F	F			
7 $ 4600 - 5320	20¢	20¢	F	F	F	F		
8 $ 5100 - 5820	20¢	20¢	20¢	F	F	F	F	

For each additional family member add $450 to above amounts.

Eligibility determinations are made on a family basis, for example, all the children in the same family attending schools under the jurisdiction of the same school food authority are to receive the same benefits, i.e. a free lunch or a reduced price lunch not some a free and some a reduced price lunch.

*'F' indicates free lunch

APPENDIX 5A

INSTRUCTIONS FOR ADMINISTRATION, ATTITUDES TOWARD SELF AND OTHERS SCALE

These instructions have been prepared to help you administer this questionnaire in the necessarily standardized manner. It is most important that you follow all the directions exactly. Uniformity of administration increases the accuracy and reliability of results.

Please administer in the classroom. Please DO NOT permit students to take these questionnaires home. They MUST fill them out during the school testing period.

First, please give a questionnaire to EACH student and check to see if he has a pen or pencil with which to complete the questionnaire. Then, read the following instructions. DO NOT read the sentences in parentheses. They are for your use only.

BEGIN READING HERE.

Today you are going to take this special test to help you find out more about yourself.

First, please fill out the information at the top of the first page. Please PRINT your first name, then your middle initial, if you have one, and then your last name. No nicknames please.

((Pause))

Beside "Date" write today's date, which is_____.

((Pause))

Beside sex, write "M" for male and "F" for female.

((Pause))

Now add your grade, which is_____, school which is _____, and homeroom number and homeroom teacher which are _____and_____.

((Pause))

Has everybody filled it in ?.....O.K.....

Now I would like for you to read the directions on the front page silently as I read them aloud.

((READ ALL INSTRUCTIONS SLOWLY AND CAREFULLY.))

Remember to put a number in <u>each</u> space. You will have plenty of time to finish this, but do not spend too much time on any one statement. Are there any questions about what you are to do?

((PAUSE, ANSWER ALL QUESTIONS, THEN SAY...))

Ready?.....Begin!

APPENDIX 5B

ATTITUDES TOWARD SELF AND OTHERS SCALE

PLEASE PRINT:

NAME _____ TODAY'S DATE _____

SEX _____ GRADE _____ SCHOOL _____

HOMEROOM NUMBER _____ HOMEROOM TEACHER _____

Here are some different kinds of sentences. We would like to know how WELL you feel these sentences describe YOU. Of course, there is no right answer for any statement. The best answer is what YOU feel is true for YOURSELF.

Read each statement carefully. Then write the number which best describes YOUR feelings about the statement in the blank to the left of the statement. Select from numbers 1, 2, 3, 4, or 5. These are what the numbers mean.

1: Not at all true of myself

2: A little bit true of myself

3: About halfway true of myself

4: Mostly true of myself

5: Completely true of myself all the time

Look very carefully at these numbers and what they mean as you read EACH statement. At the bottom of each page you will find a key with shortened meanings of the numbers listed above. This will help you in answering the questions as best you can. Look at these as you read each sentence and also feel free to look back at this page for the COMPLETE meanings of the numbers.

Remember, the best answer is the one which applies to YOU.

Signature _____

PLEASE BE SURE THAT ALL THE ABOVE INFORMATION IS COMPLETELY FILLED IN!

_____ 1. I often tell people what they should do when they're having trouble making a decision.

_____ 2. I feel that I am not on the same level with people my age.

_____ 3. I guess I put on a show to impress people.

_____ 4. I do not enjoy doing little favors for people when I don't know them well.

_____ 5. If I didn't always have such bad luck, I could get more done than I have.

_____ 6. I find that I feel the need to make excuses or apologize for what I say or do.

_____ 7. When people have ideas I don't like, I just don't care to have much to do with them.

_____ 8. I have to be careful at parties and when I'm with other people because I'm afraid I will do or say things others won't like.

_____ 9. My feelings are easily hurt.

_____ 10. I feel that I'm not as good as other people.

_____ 11. I question how good a person I am when I think others do.

_____ 12. I usually ignore the feelings of others when I'm working on an important project.

_____ 13. It bothers me that I can not make up my mind soon enough or fast enough.

_____ 14. I feel I cannot do something about the problems that may arise in the future.

_____ 15. I find it hard to be interested in the activities of my friends.

_____ 16. I am afraid of meeting new people.

_____ 17. When I am first getting to know a person, I try to size him (or her) up to see if I am better than (or not as good as) this person.

_____ 18. When I'm dealing with younger persons, I expect them to do what I tell them.

KEY: 1: Not at all true 2: Little bit true 3: Halfway true 4: Mostly true 5: Completely true

_____ 19. I would like it if I could find someone who would tell me how to solve my own problems.

_____ 20. I don't like the way some of my friends dress or some of their ideas.

_____ 21. I prefer to be alone rather than have close friendships with any of the people around me.

_____ 22. One cannot be too careful in trying not to hurt others because some people are just naturally hard to deal with.

_____ 23. When someone asks for advice about some personal problems, I'm most likely to say, "It's up to you to decide," rather than tell him what he should do.

_____ 24. It is easy for me to considerably influence my friends.

_____ 25. I am easily hurt. People say things and I have a tendency to think they're criticizing me or insulting me in some way and later when I think of it, they may not have meant anything like that at all.

_____ 26. There are very few times when I compliment people on what a good job they have done.

_____ 27. I'm afraid for people that I like to find out what I'm really like, because I'm afraid they would be disappointed in me.

_____ 28. Some people whom I know think they're too great and become "hard to live with" when they win an award.

_____ 29. I cannot be friendly with people who do things which I consider wrong.

_____ 30. I don't approve of spending time and energy in doing things for other people; I believe in looking to my family and myself more and letting others take care of themselves.

_____ 31. When people say nice things about me, I find it hard to believe they really mean it. I think maybe they're kidding me or just aren't honest.

_____ 32. The person you marry may not be perfect, but I believe in trying to get him (or her) to change.

_____ 33. It takes me several days or longer to get over a failure that has happened to me.

KEY: 1: Not at all true 2: Little bit true 3: Halfway true 4: Mostly true 5: Completely true

_____ 34. One soon learns to expect very little of other people.

_____ 35. If anybody tells me I have done something wrong, I just can't take it.

_____ 36. Some people are always trying to get more than their share of the good things in life.

_____ 37. I cannot be comfortable with <u>all</u> kinds of people.

_____ 38. People understand me when I try to keep them from making mistakes that could have an important effect on their lives.

_____ 39. I get scared when I think I have done something wrong.

_____ 40. When I have to talk before a group of people, I am uncomfortable and have a hard time saying things well.

_____ 41. Because of other people, I have not been able to get as much done as I should have.

_____ 42. I see nothing wrong with stepping on other people's toes a little if it'll help me get what I want in life.

_____ 43. I'm not sure my plans will turn out the way I want them to.

_____ 44. When meeting a person for the first time, I have trouble telling whether he (or she) likes or dislikes me.

_____ 45. I feel either above or below the people I meet.

_____ 46. When I'm in a group of people I usually don't say much for fear of saying the wrong thing.

_____ 47. I worry or criticize myself if other people criticize me.

_____ 48. I do not feel I am a person of worth, equal to other people.

_____ 49. I am shy when I'm with people.

_____ 50. I feel that I might be a failure if I don't make certain changes in myself.

_____ 51. I don't see much point in doing things for others unless they can do me some good later on.

_____ 52. I enjoy myself most when I'm alone away from other people.

<u>KEY</u>: <u>1</u>: Not at all true <u>2</u>: Little bit true <u>3</u>: Halfway true <u>4</u>: Mostly true <u>5</u>: Completely true

____ 53. I don't try to be friendly with people because I think they won't like me.

____ 54. I regret a past action I have taken when I find that the action has hurt someone else.

____ 55. I don't approve of doing favors for people. If you're too agreeable they'll take advantage of you.

____ 56. I try to get people to do what I want them to do, in one way or another.

____ 57. I change my opinions, or the ways I do things, in order to please other people.

____ 58. I have a tendency to avoid solving my problems.

____ 59. I do not look on most of the feelings I have toward people as being quite all right.

____ 60. I'm easily irritated by people who argue with me.

____ 61. I feel different from other people.

____ 62. My own decisions about problems I face do not turn out to be good ones.

____ 63. It worries me to think some of my friends may dislike me.

____ 64. When someone makes a mistake in my presence, I am almost certain to point it out to them.

KEY: 1: Not at all true 2: Little bit true 3: Halfway true 4: Mostly true 5: Completely true

APPENDIX 6

ATTITUDE TOWARD VOCATIONAL EDUCATION SCALE (TEACHERS AND ADMINISTRATORS)

As participants in the Apex Exemplary Program in Occupational Education, we would like to have your opinions on vocational education. Therefore, we would appreciate your cooperation in filling out this questionnaire. No attempt will be made to identify the answers of any particular individual. In fact, we are <u>not</u> asking you to write your name on this instrument. However, we would like you to provide us with some information below which will be used for classification purposes only. Please be sure <u>to fill in all the information</u> before starting to read the instructions for responding to the questionnaire.

Today's Date:_____ Year of Birth:_____

Sex:_____ Highest Degree Obtained:_____

Position: (Check one)

Teacher_____

Academic_____

Vocational_____
(including business)

Administrator_____

Staff Personnel_____

Grade Level of Your Students:
(Teachers, please check one)

Elementary (1-5)_____

Junior High (6-8)_____

Senior High (9-12)_____

TURN TO THE NEXT PAGE FOR INSTRUCTIONS

INSTRUCTIONS

Please read <u>each</u> of the following statements concerning vocational education. Then circle the answer to the right of each statement which best represents <u>your own</u> feeling about the statement. Please do not consult with anyone else. These are your possible answers.

SA: Strongly Agree

A: Agree

?: Undecided

D: Disagree

SD: Strongly Disagree

You will find the above key at the top of each page.

(For research purposes, you must consider all statements as they are, without modifying them in any way.)

KEY: SA (Strongly Agree), A (Agree), ? (Undecided), D (Disagree), SD (Strongly Disagree)

1. Failure to offer vocational education cannot be justified in a democratic society.	SA	A	?	D	SD
2. Vocational education courses are as important for college bound students as they are for non-college bound students.	SA	A	?	D	SD
3. Junior high school students can profit from specialized vocational courses commensurate with their maturity levels.	SA	A	?	D	SD
4. Academic courses are applicable to a wider spectrum of jobs than vocational education courses.	SA	A	?	D	SD
5. Vocational training is not as valuable to society as training for the professions.	SA	A	?	D	SD
6. Employer and employee organizations should not expect to be invited to cooperate with the school in planning its vocational education programs.	SA	A	?	D	SD
7. Every youth should possess a marketable occupational skill when he leaves high school.	SA	A	?	D	SD
8. Vocational education is a powerful agency for promoting individual and social efficiency.	SA	A	?	D	SD
9. A course that helps students improve their personal attitudes and social living habits has no place in vocational education curriculum.	SA	A	?	D	SD
10. All students should be enrolled in at least one vocational education class while in school.	SA	A	?	D	SD
11. Vocational education is one answer to youth unrest in this country.	SA	A	?	D	SD

KEY: SA (Strongly Agree), A (Agree), ? (Undecided), D (Disagree), SD (Strongly Disagree)

12. Vocational education receives more support than it deserves.	SA	A	?	D	SD
13. The influence of vocational education courses upon students is beneficial.	SA	A	?	D	SD
14. Increased vocational education may be an answer to the problems of unemployment.	SA	A	?	D	SD
15. Vocational education programs do not help keep the potential dropout in school.	SA	A	?	D	SD
16. The value of vocational education is sufficiently appreciated by the general public.	SA	A	?	D	SD
17. Vocational education should be handled outside the academic school system--in technical institutes or community colleges.	SA	A	?	D	SD
18. It is a waste of time and human resources for high school students to take vocational education courses.	SA	A	?	D	SD
19. Vocational education courses are among the most valuable courses a high school student can take.	SA	A	?	D	SD
20. Vocational education should not generally be related to employment opportunities in local areas.	SA	A	?	D	SD
21. Vocational education should not emphasize the development of abilities that can be used for many years.	SA	A	?	D	SD
22. Rural youth are being educationally shortchanged due to inadequate vocational offerings.	SA	A	?	D	SD
23. The major function of the high school should be the preparation of students for entrance into college.	SA	A	?	D	SD

KEY: SA (Strongly Agree), A (Agree), ? (Undecided), D (Disagree), SD (Strongly Disagree)

24.	It is not a responsibility of the school to provide placement services. Student placement services are adequately provided by governmental agencies.	SA	A	?	D	SD
25.	The need no longer exists for vocational courses in high school.	SA	A	?	D	SD
26.	Vocational education has its faults, but on the whole it is a valuable part of the high school curriculum.	SA	A	?	D	SD
27.	Manpower needs of the community should be considered in determining the type of vocational education programs to offer.	SA	A	?	D	SD
28.	People should be satisfied with, and be making progress in their jobs as a result of their vocational education experiences.	SA	A	?	D	SD
29.	Cooperative work experience programs contribute little to the effectiveness of vocational education programs.	SA	A	?	D	SD
30.	Schools have a responsibility to provide occupational education for persons of all levels of ability.	SA	A	?	D	SD
31.	Manpower needs can be partially met through vocational education.	SA	A	?	D	SD
32.	Many women need vocational education experiences to vitalize their old skills and to learn new skills.	SA	A	?	D	SD
33.	Educating persons for a vocation does not result in as great a return to society as educating persons for the professions.	SA	A	?	D	SD
34.	Vocational education has proved itself to be an indispensable part of the curriculum in the high school.	SA	A	?	D	SD

KEY: SA (Strongly Agree), A (Agree), ? (Undecided), D (Disagree), SD (Strongly Disagree)

35. While vocational education has some value to high school students, it is not an essential part of the high school curriculum.	SA	A	?	D	SD
36. Occupational information should be available to all students.	SA	A	?	D	SD
37. Vocational education courses are designed to meet the needs of slow learners.	SA	A	?	D	SD
38. The knowledge students could obtain from vocational education courses is of doubtful value.	SA	A	?	D	SD

APPENDIX 7A

INSTRUCTIONS FOR ADMINISTRATION, ATTITUDE TOWARD VOCATIONAL EDUCATION SCALE (STUDENTS)

These instructions have been prepared to help you administer this questionnaire in the necessarily standardized manner. It is most important that you follow all the directions exactly. Uniformity of administration increases the accuracy and reliability of results.

Please administer in the classroom. Please DO NOT permit students to take these questionnaires home. They MUST fill them out during the school testing period.

First, please give a questionnaire to EACH student and check to see if he has a pen or pencil with which to complete the questionnaire. Then, read the following instructions. DO NOT read the sentences in parentheses. They are for your use only.

((BEGIN READING HERE.))

Today, we would like to find out your ideas about vocational education. Remember, vocational education includes such courses as bookkeeping, shorthand, carpentry, ICT, home economics, and agriculture courses.

First, please fill out the information at the top of the first page. Please PRINT your first name, then your middle initial, if you have one, and then your last name. No nicknames please.

((Pause))

Circle the grade you are presently in.

((Pause))

Beside "Today's Date" write today's date, which is_____.

((Pause))

Now add your age in years only.

((Pause))

Now add your homeroom number and homeroom teacher which are_____ and _____.

((Pause))

Has everybody filled it in? . . . . . O.K. . . . . .

Now I would like for you to read the directions on the front page silently as I read them aloud.

((READ ALL INSTRUCTIONS SLOWLY AND CAREFULLY.))

Remember <u>circle your answer for each question</u>. You will have plenty of time to finish this, but do not spend too much time on any one statement. Are there any questions about what you are to do?

((PAUSE, ANSWER ALL QUESTIONS, THEN SAY.))

Ready? . . . . . Begin!

APPENDIX 7B

ATTITUDE TOWARD VOCATIONAL EDUCATION SCALE (STUDENTS)

PLEASE FILL OUT COMPLETELY: (PO 4)

NAME_____ GRADE: (CIRCLE ONE) 9 10 11 12
FIRST MIDDLE LAST

TODAY'S DATE_____ AGE_____

HOMEROOM NUMBER_____ HOMEROOM TEACHER_____

The sentences on the next TWO pages contain ideas about vocational education. Please read EACH sentence VERY carefully. Then decide how much YOU agree with each statement or disagree with each statement, and circle the correct answer to the RIGHT of EACH statement.

These are your possible answers:

SA: I Strongly Agree with the statement.

A: I Agree with the statement.

?: I am Undecided about the statement.

D: I Disagree with the statement.

SD: I Strongly Disagree with the statement.

EXAMPLE:

Vocational education courses are boring. SA A ? D SD

"D" was circled to the right of the statement because the way I feel about this statement is that I DISAGREE with it definitely, but not strongly enough to circle STRONGLY DISAGREE (SD).

Following the above example, please read each statement and circle your answer to the right of each statement. To help you, you will find the answers listed above (SA, A, ?, D, SD) on the top of each page.

Remember the BEST answer is the answer that tells how much YOU agree or disagree with each statement.

NOW GO ON TO THE NEXT PAGE.

KEY: SA (Strongly Agree, A (Agree), ? (Undecided), D (Disagree), SD (Strongly Disagree)

1. Vocational education should be offered only to students who have trouble learning in school.	SA	A	?	D	SD
2. Vocational education courses could help students find and keep jobs.	SA	A	?	D	SD
3. Vocational education courses could only prepare students for unimportant jobs.	SA	A	?	D	SD
4. Very real benefits could be expected from taking vocational education courses.	SA	A	?	D	SD
5. Vocational education courses take up a student's time that should be spent on academic courses.	SA	A	?	D	SD
6. Vocational education courses can be just as useful as academic courses to the average student.	SA	A	?	D	SD
7. Vocational education programs could help keep students who might quit school from doing so.	SA	A	?	D	SD
8. Students who are able to finish college should be discouraged from taking vocational education courses.	SA	A	?	D	SD
9. One important function of vocational education should be teaching people to work with their hands.	SA	A	?	D	SD
10. Most students who take vocational education courses should be only slow learners.	SA	A	?	D	SD
11. It is a waste of time for high school students to take vocational education courses.	SA	A	?	D	SD
12. More students should be encouraged to enroll in vocational education programs.	SA	A	?	D	SD
13. Vocational education courses should be as important for college-bound students as they are for non-college bound students.	SA	A	?	D	SD

GO ON TO THE NEXT PAGE

KEY: SA (Strongly Agree), A (Agree), ? (Undecided), D (Disagree), SD (Strongly Disagree)

14. Vocational courses are good for some students, but not for all.	SA	A	?	D	SD
15. Students who take vocational education should be looked down upon by other students.	SA	A	?	D	SD
16. Vocational education could help solve the problem of student unhappiness in the United States.	SA	A	?	D	SD
17. Vocational education courses should no longer be offered in the high school.	SA	A	?	D	SD
18. All students should be enrolled in at least one vocational education class while in high school.	SA	A	?	D	SD
19. The vocational education curriculum should provide a good preparation for an equal range of jobs as does the college preparatory curriculum.	SA	A	?	D	SD
20. The major function of the high school should be getting students ready for college.	SA	A	?	D	SD

THE END

APPENDIX 8

RESPONSES PER ITEM, BY GRADE LEVEL, TO ATTITUDE TOWARD VOCATIONAL EDUCATION SCALE (STUDENTS), FEBRUARY 16, 1971

Responses Per Item, Ninth Grade, N = 159[1]

Item	SA	A	?	D	SD	Mean Score[2]	t-Test[3]
1*	11	20	17	82	29	3.616	7.050
2	48	97	8	4	2	4.163	3.992
3*	4	15	22	81	37	3.830	6.779
4	18	85	42	9	5	3.641	3.775
5*	4	15	34	82	24	3.673	5.607
6	20	96	28	13	2	3.748	2.713
7	31	82	30	14	2	3.792	3.543
8*	6	21	36	66	30	3.585	6.797
9	15	81	36	23	4	3.503	2.755
10*	5	12	17	91	34	3.862	6.654
11*	5	9	19	72	54	4.012	7.527
12	27	78	36	14	4	3.692	4.472
13	26	82	26	18	7	3.641	5.796
14*	15	59	43	32	10	2.767	4.292
15*	8	19	9	60	63	3.950	5.535
16	24	63	54	11	7	3.541	3.358
17*	6	12	7	55	79	4.189	7.876
18	34	77	28	15	5	3.755	3.981
19	29	73	47	10	0	3.761	3.698
20*	42	55	27	21	14	2.434	**

[1]Scale: SA = Strongly Agree; A = Agree; (?) = Undecided; D = Disagree; SD = Strongly Disagree.

[2]Score Bases: SA = 5; A = 4; (?) = 3; D = 2, SD = 1.

[3]Computed for the .05 level of significance ($_{.05}t_{42,42} = 1.992$).

*For items with asterisks, score bases are reversed.

**T-test score did not reach the .05 level of significance.

Responses Per Item, Tenth Grade, N = 132[1]

Item	SA	A	?	D	SD	Mean Score[2]	t-Test[3]
1*	3	10	15	75	29	3.886	6.850
2	43	78	8	2	1	4.212	4.225
3*	2	4	12	79	35	4.068	3.926
4	18	86	21	4	3	3.848	3.504
5*	0	2	18	80	32	4.076	6.141
6	17	88	13	10	4	3.788	3.786
7	31	80	16	4	1	4.030	2.900
8*	6	10	22	75	19	3.689	3.270
9	12	85	25	9	1	3.742	**
10*	1	5	5	93	28	4.076	3.136
11*	5	2	4	69	52	4.220	7.175
12	23	83	22	3	1	3.939	5.084
13	21	66	28	13	4	3.659	5.015
14*	4	78	26	21	3	2.553	2.810
15*	1	6	12	42	71	4.333	3.957
16	10	40	66	12	4	3.303	3.754
17*	3	1	4	58	66	4.386	3.917
18	17	63	30	18	4	3.538	4.149
19	18	75	34	4	1	3.795	4.405
20*	31	36	20	37	8	2.659	2.412

[1]Scale: SA = Strongly Agree; A = Agree; (?) = Undecided; D = Disagree; SD = Strongly Disagree.

[2]Score Bases: SA = 5; A = 4; (?) = 3; D = 2; SD = 1.

[3]Computed for the .05 level of significance ($_{.05}t_{38,35} = 2.000$).

*For items with asterisks, score bases are reversed.

**T-test score did not reach the .05 level of significance.

Responses Per Item, Eleventh Grade, N = 98[1]

Item	SA	A	?	D	SD	Mean Score[2]	t-Test[3]
1*	1	12	4	50	31	4.000	6.681
2	30	56	7	4	1	4.122	5.138
3*	0	4	5	53	36	4.235	5.462
4	15	59	20	4	0	3.867	3.200
5*	1	2	16	57	22	3.990	6.047
6	18	56	16	6	2	3.837	2.986
7	25	51	18	3	1	3.979	3.854
8*	2	10	16	52	18	3.755	4.947
9	6	46	27	18	1	3.388	**
10*	0	5	5	50	38	4.235	5.048
11*	1	0	7	45	45	4.357	8.410
12	17	51	17	11	2	3.714	5.754
13	18	49	16	13	2	3.694	4.549
14*	16	42	22	14	4	2.469	2.462
15*	1	4	7	30	56	4.388	4.892
16	8	38	32	17	3	3.316	4.081
17*	0	1	5	41	51	4.449	7.143
18	13	43	28	10	4	3.520	3.455
19	18	56	21	3	0	3.908	3.045
20*	19	20	20	30	9	2.898	3.308

[1]Scale: SA = Strongly Agree; A = Agree; (?) = Undecided; D = Disagree; SD = Strongly Disagree.

[2]Score Bases: SA = 5; A = 4; (?) = 3; D = 2; SD = 1.

[3]Computed for the .05 level of significance ($_{.05}t_{27,27} = 2.009$).

*For items with asterisks, score bases are reversed.

**T-test score did not reach the .05 level of significance.

Responses Per Item, Twelfth Grade, N = 110[1]

Item	SA	A	?	D	SD	Mean Score[2]	t-Test[3]
1*	3	6	7	53	41	4.118	7.013
2	34	71	2	2	1	4.227	2.335
3*	0	7	6	58	39	4.173	3.772
4	17	65	20	6	2	3.809	3.883
5*	1	1	13	65	30	4.109	4.310
6	27	71	3	9	0	4.054	4.650
7	32	61	9	7	1	4.054	3.649
8*	5	14	18	58	15	3.582	5.330
9	6	54	31	17	2	3.409	**
10*	3	2	8	53	44	4.209	6.724
11*	1	3	2	62	42	4.282	6.183
12	14	66	22	8	0	3.782	5.970
13	10	61	19	17	3	3.527	3.082
14*	6	68	15	14	7	2.527	**
15*	0	1	8	45	56	4.418	5.796
16	8	42	47	11	2	3.391	**
17*	0	2	3	45	60	4.482	7.114
18	12	68	18	12	0	3.727	4.407
19	24	70	13	3	0	4.045	3.974
20*	17	25	15	43	10	3.036	6.544

[1]Scale: SA = Strongly Agree; A = Agree; (?) = Undecided; D = Dis-Agree; SD = Strongly Disagree.

[2]Score Bases: SA = 5; A = 4; (?) = 3; D = 2; SD = 1.

[3]Computed for the .05 level of significance ($_{.05}t_{31,29} = 2.007$).

*For items with asterisks, score bases are reversed.

**T-test score did not reach the .05 level of significance.

APPENDIX 9

INSTRUMENT MEASURING PRIMARY PRODUCT OBJECTIVES
9, 10, AND 11, GRADES 1-5

Name_____

Grade_____

School_____

Date_____

Grades 1-6

1. Name as many different occupations (types of work) as you can.

2. (a) What type of work does your father do?

(b) What type of work does your mother do?

(c) How many brothers do you have?

What type of work does each of them do?

(d) How many sisters do you have?

What type of work does each of them do?

*3. A "work habit" is a particular method or manner a person uses while working, and a "good" work habit helps to make his work easier, as well as improving the quality of his work. For example, a woman who is careful when sewing a dress together has developed a good work habit--she is careful. A carpenter who always holds his hammer correctly can drive nails more quickly and will bend fewer of them than a carpenter who holds his hammer the wrong way. So holding a hammer correctly, while driving nails, is another example of a "good" work habit.

Name all of the "good" work habits that you know.

APPENDIX 10

INSTRUMENT MEASURING PRIMARY PRODUCT OBJECTIVES
9 AND 11, GRADES 6-12

Name_____

Grade_____

School_____

Date_____

1. (a) What type of work does your father do?

(b) What type of work does your mother do?

(c) How many brothers do you have?

What type of work does each of them do?

(d) How many sisters do you have?

What type of work does each of them do?

*2. A "work habit" is a particular method or manner a person uses while working, and a "good" work habit helps to make his work easier, as well as improving the quality of his work. For example, a woman who is careful when sewing a dress together has developed a good work habit--she is careful. A carpenter who always holds his hammer correctly can drive nails more quickly and will bend fewer of them than a carpenter who holds his hammer the wrong way. So holding a hammer correctly, while driving nails, is another example of a "good" work habit.

Name all of the "good" work habits that you know.

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*The conflicting examples used in this item led to interpretation problems. A clear definition of a work habit, and a relevant item example, will be used on future tests.